



Department of
Design and
Construction

PROJECT ID:

CO277ELV2

THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF PUBLIC BUILDINGS

30-30 THOMSON AVENUE
LONG ISLAND CITY, NEW YORK 11101-3045
TELEPHONE (718) 391-1000
WEBSITE www.nyc.gov/buildnyc

LAW

VOLUME 1 OF 3

BID BOOKLET

FOR FURNISHING ALL LABOR AND MATERIALS
NECESSARY AND REQUIRED FOR:

Court Square Courthouse Elevator Modernization and Upgrades

LOCATION:
BOROUGH:
CITY OF NEW YORK

25-10 Court Square
Queens 11101

CONTRACT NO. 1

GENERAL CONSTRUCTION WORK

DCAS

WSP Group



Date:

June 28, 2016

PLA

Bid Tab

Description COURT SQUARE COURTHOUSE ELEVATOR MODERNIZATION
AND UPGRADES-BOROUGH OF QUEENS

Bid Date	11/2/2016	FMS ID	CO277ELV2
Estimated Cost	\$1,940,328.00	Client Agency	DCAS
Bid Security	Not less than 2% of Total Bid Price	PLA	YES
Time Allowed	480CCD	FEDERAL FUNDED:	NO
Addendum	3	Contract Manager	Giovanni Matos
PIN	8502016CT0015C	Project Manager	Pompilus, Donel
Selective Bidding	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	E-PIN	85016B0156

Bid Rank	Vendor	Bid Amount	Security Type
1	KNIGHTSBRIDGE CONSTRUCTION CORP.	\$2,711,000.00	Bond
2	XBR INC	\$2,831,165.00	Bond
3	FIVE STAR CONTRACTING COMPANIES, INC.	\$3,500,000.00	Bond

Recorder: Brenda Barreiro Ext. 1041

Approver: 



April 19, 2017

CERTIFIED MAIL - RETURN RECEIPT REQUEST
KNIGHTSBRIDGE CONSTRUCTION CORP.
33 GREAT NECK ROAD
GREAT NECK, NY 11021

RE: FMS ID: CO277ELV2
E-PIN: 85016B0156001
DDC PIN: 8502016CT0015C
COURT SQUARE COURTHOUSE
ELEVATOR MODERNIZATION AND
UPGRADES-BOROUGH OF QUEENS
NOTICE OF AWARD

Dear Contractor:

You are hereby awarded the above referenced contract based upon your bid in the amount of \$2,711,000.00 submitted at the bid opening on November 02, 2016. Within ten (10) days of your receipt of this notice of award, you are required to take the actions set forth in Paragraphs (1) through (3) below. For your convenience, attached please find a copy of Schedule A of the General Conditions to the Contract, which sets forth the types and amounts of insurance coverage required for this contract.

- (1) Execute two copies of the Agreement in the Contracts Unit, 30-30 Thomson Avenue, 1st Floor, Long Island City, New York (IDCNY Building). A Commissioner of Deeds will be available to witness and notarize your signature. The Agreement must be signed by an officer of the corporation or a partner of the firm.
- (2) Submit to the Contracts Unit two properly executed performance and payment bonds. If required for this contract, copies of performance and payment bonds are attached.
- (3) Submit to the Contracts Unit the following insurance documentation: (a) original certificate of insurance for general liability in the amount required by Schedule A, and (b) original certificates of insurance or other proof of coverage for workers' compensation and disability benefits, as required by New York State Law. The insurance documentation specified in this paragraph is required for registration of the contract with the Comptroller's Office.



**Department of
Design and
Construction**

On or before the contract commencement date, you are required to submit all other certificates of insurance and/or policies in the types and amounts required by Schedule A. Such certificates of Insurance and/or policies must be submitted to the Agency Chief Contracting Office, Attention: Risk Manager, Fourth Floor at the above indicated department address.

Your attention is directed to the section of the Information for Bidders entitled "Failure to Execute Contract". As indicated in this section, in the event you fail to execute the contract and furnish the required bonds within the (10) days of your receipt of this notice of award, your bid security will be retained by the City and you will be liable for the difference between your bid price and the price for which the contract is subsequently awarded, less the amount of the bid security retained.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael Shipman", written over a horizontal line.

Michael Shipman
Director of Contracts

BID FORM
THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF PUBLIC BUILDINGS

BID FOR FURNISHING ALL LABOR AND
MATERIAL NECESSARY AND REQUIRED FOR:

PROJECT ID: CO277ELV2

Court Square Courthouse Elevator Modernization and Upgrades
25-10 Court Square
Queens 11101

Name of Bidder: Knightsbridge Construction Corp.

Date of Bid Opening: 11/2/16

Bidder is: (Check one, whichever applies) Individual () Partnership () Corporation (✓)

Place of Business of Bidder: 33 Great Neck Rd, Great Neck, NY 11021

Bidder's Telephone Number: 516 482 2416 Bidder's Fax Number: 516 482 9105

Bidder's Email Address: Knightcorp1@aol.com

Residence of Bidder (If Individual): _____

If Bidder is a Partnership, fill in the following blanks:

Names of Partners

Residence of Partners

If Bidder is a Corporation, fill in the following blanks:

Organized under the laws of the State of New York

Name and Home Address of President: Jeffrey Sadowsky, Great Neck, NY

Name and Home Address of Secretary: Jeffrey Sadowsky, Great Neck, NY

Name and Home Address of Treasurer: _____

BID FORM

Knightbridge Construction Corp.

The above-named Bidder affirms and declares:

1. The said bidder is of lawful age and the only one interested in this bid; and no person, firm or corporation other than hereinbefore named has any interest in this bid, or in the Contract proposed to be taken.
2. By submission of this bid, each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid each party thereto certifies as to its own organization, under penalty of perjury, that to the best of its knowledge and belief: (1) the prices in this bid have been arrived at independently without collusion, consultation, communication or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other bidder or with any competitor; (2) unless otherwise required by law, the prices quoted in this bid have not been knowingly disclosed by the bidder and will not knowingly be disclosed by the bidder prior to opening, directly or indirectly, to any other bidder or to any competitor; and (3) no attempt has been made or will be made by the bidder to induce any other person, partnership or corporation to submit or not to submit a bid for the purpose of restricting competition.
3. No councilman or other officer or employee or person whose salary is payable in whole or in part from the City Treasury is directly or indirectly interested in this bid, or in the supplies, materials, equipment, work or labor to which it relates, or in any of the profits thereof.
4. The bidder is not in arrears to the City of New York upon debt or contract or taxes, and is not a defaulter, as surety or otherwise, upon any obligation of the City of New York, and has not been declared not responsible, or disqualified, by any agency of the City of New York or State of New York, nor is there any proceeding pending relating to the responsibility or qualification of the bidder to receive public contracts except as set forth on the Affirmation included as page 17 of this Bid Booklet.

The bidder hereby affirms that it has paid all applicable City income, excise and other taxes for all years it has conducted business activities in New York City.

5. The bidder, as an individual, or as a member, partner, director or officer of the bidder, if the same be a firm, partnership or corporation, executes this document expressly warranting and representing that should this bid be accepted by the City and the Contract awarded to him, he and his subcontractors engaged in the performance:
(1) will comply with the provisions of Section 6-108 of the Administrative Code of the City of New York and the non-discrimination provisions of Section 220a of the New York State Labor Law, as more expressly and in detail set forth in the Agreement; (2) will comply with Section 6-109 of the Administrative Code of the City of New York in relation to minimum wages and other stipulations as more expressly and in detail set forth in the Agreement; (3) have complied with the provisions of the aforesaid laws since their respective effective dates, and (4) will post notices to be furnished by the City, setting forth the requirements of the aforesaid laws in prominent and conspicuous places in each and every plant, factory, building and structure where employees engaged in the performance of the Contract can readily view it, and will continue to keep such notices posted until the supplies, materials and equipment, or work labor and services required to be furnished or rendered by the Contractor have been finally accepted by the City. In the event of any breach or violation of the foregoing, the Contractor may be subject to damages, liquidated or otherwise, cancellation of the Contract and suspension as a bidder for a period of three years. (The words, "the bidder", "he", "his", and "him" where used shall mean the individual bidder, firm, partnership or corporation executing this bid).

6. Compliance Report

The bidder, as an individual, or as a member, partner, director, or officer of the bidder, if the same be a firm, partnership, or corporation, (1) represents that his attention has been specifically drawn to Executive Order No. 50, dated April 25, 1980, on Equal Employment Compliance of the contract, and (2) warrants that he will comply with the provisions of Executive Order No. 50. The Employment Report must be submitted as part of the bid.

The bidder, as an individual, or as a member, partner, director, or officer of the bidder, if the same be a firm, partnership, or corporation, executes this document expressly warranting that he will comply with: (1) the provision of the contract on providing records, Chapter 8.

7. By submission of this bid, the bidder certifies that it now has and will continue to have the financial capability to fully perform the work required for this contract. Any award of this contract will be made in reliance upon such certification. Upon request therefor, the bidder will submit written verification of such financial capability in a form that is acceptable to the department.

8. In accordance with Section 165 of the State Finance Law, the bidder agrees that tropical hardwoods, as defined in Section 165 of the State Finance Law, shall not be utilized in the performance of this Contract, except as the same are permitted by the foregoing provision of law.

9. The bidder has visited and examined the site of the work and has carefully examined the Contract in the form approved by the Corporation Counsel, and will execute the Contract and perform all its items, covenants and conditions, and will provide, furnish and deliver all the work, materials, supplies, tools and appliances for all labor and materials necessary or required for the hereinafter named work, all in strict conformity with the Contract, for the prices set forth in the Bid Schedule:

10. **M/WBE UTILIZATION PLAN:** By signing its bid, the bidder agrees to the Vendor Certification and Required Affirmations set forth below, unless a full waiver of the Participation Goals is granted. The Vendor Certification and Required Affirmations will be deemed to satisfy the requirement to complete Section V of Part II of Schedule B: M/WBE Utilization Plan.

Section V: Vendor Certification and Required Affirmations:

I hereby:

- 1) acknowledge my understanding of the M/WBE participation requirements as set forth in this Contract and the pertinent provisions of Section 6-129 of the Administrative Code of the City of New York and the rules promulgated thereunder;
- 2) affirm that the information supplied in support of the M/WBE Utilization Plan is true and correct;
- 3) agree, if awarded this Contract, to comply with the M/WBE participation requirements of this Contract, the pertinent provisions of Section 6-129, and the rules promulgated thereunder, all of which shall be deemed to be material terms of this Contract;
- 4) agree and affirm that it is a material term of this Contract that the Vendor will award the total dollar value of the M/WBE Participation Goals to certified MBEs and/or WBEs, unless a full waiver is obtained or such goals are modified by the Agency; and
- 5) agree and affirm, if awarded this Contract, to make all reasonable, good faith efforts to meet the M/WBE Participation Goals, or If a partial waiver is obtained or such goals are modified by the Agency, to meet the modified Participation Goals by soliciting and obtaining the participation of certified MBE and/or WBE firms.

Unit Price Schedule - Elevator Maintenance

Unit Price items: The items of work set forth in the Schedule below shall be performed by the contractor on a unit price basis for additional work. Such items of work shall be performed by the contractor only as directed in writing by the Commissioner.

The bidder shall submit prices for all the items of work in the Schedule below. The bidder shall insert the total sum for all unit price items on the Bid Form, Item C - Allowance for Unit Prices. The unit price bid for each item shall include all costs and expense for the item, i.e., labor, material, overhead and profit. Estimated quantities shown are approximate and for bid comparison purposes only. Actual amounts to be determined when the work is performed.

SPARE PARTS - Elevator Maintenance (section 142123, Article 1.2, sub-article K) & Intercom System (section 142123, Article 2.9, sub-article D-10)

Item #	Item Description	Quant.	Units	Unit Price	Total
1	GAL Hoistway Door Interlock Assembly	10	EA	265.20	2,652
2	GAL Hoistway/Car hanger track	6	EA	500.00	3,000
3	GAL Hoistway and Car Door Rollers	10	EA	40.00	400
4	GAL Interlock Release Rollers	10	EA	80.00	800
5	Door Detector Assembly	2	EA	650.00	1,300
6	Roller Wheels Complete of Each Type Used	10	EA	115.00	1,150
7	Leveling Unit & Encoder	2	EA	2,500.00	5,000
8	Hoistway Limit Switches	10	EA	350.00	3,500
9	GAL Car Door Clutch Assembly	2	EA	900.00	1,800
10	Load Weighing Device	1	EA	3,300.00	3,300
11	Push Button Assembly	10	EA	80.00	800
12	GAL, or approved equal Gate Switches	2	EA	120.00	240
13	Toggle Switch & Keyswitch Assemblies	5	EA	160.00	800
14	Keys for Each Different Type Used	20	EA	20.00	400
15	LED Position Indicators & Drive Boards	5	EA	1,200.00	6,000
16	Stop Switch	5	EA	130.00	650
17	Printed Circuit Boards	5	EA	15,000.00	75,000
18	High & Low Voltage Relays	4	EA	1,700.00	6,800
19	Spare Parts Indicated in Intercommunications Section	3	EA	10,000.00	30,000
20	Remote Fault Monitoring Computer System in Motor Room	1	EA	35,000.00	35,000
21	Silicon Control (VVVF-AC) Power Drive	1	EA	12,000.00	12,000
22	Monitors for each used, controllers and dispatcher	1	EA	750.00	750
23	Brake coils for each type in use	2	EA	4,500.00	9,000
24	Brake assemblies complete of each type in use	1	EA	3,000.00	3,000
25	Chokes and filters of each different type used	1	EA	1,500.00	1,500
26	Power supplies of each different type used	6	EA	3,000.00	18,000
27	Feedback tachometers of each type used	4	EA	1,200.00	4,800
28	Encoders for each type used	4	EA	1,200.00	4,800
29	Door gibs	50	EA	12.00	600

30	Emergency lighting units complete of each different type used	2	EA	380,00	760.
31	Door operators of each type in use	1	EA	6,800,00	6,800.00
32	Door motors of each type in use	1	EA	700,00	700.
33	Side and top Emergency exit switch assemblies	2	EA	400,00	800.
34	Top of car run boxes complete	2	EA	2,300,00	4,600.
35	Hall Lantern bell/gong	24	EA	230,00	5,520.
36	Hall Lantern covers of each type used	5	EA	130,00	650
37	EEPROM chips for all elevator controls and dispatcher, final as built	1	SET	160,00	160
38	Fans for cabs	4	EA	170,00	680
39	Lobby panel components, switches (keyed and toggle), glass doors	3	EA	5,000,00	15,000.
INTERCOM SYSTEM:					
40	Cabinet Lock of each type used	1	EA	150,00	150
41	Solid-state board of each type used	1	EA	1,600,00	1,600
42	Power supply of each type used (Ferrups not included)	1	EA	1,500,00	1,500
43	Master station of each type used	1	EA	1,300,00	1,300
44	Button Boards of each type used	2	EA	1,000,00	2,000
45	Electronic warblers, bells, horns & strobes of each type	2	EA	1,700,00	3,400
46	Car stations of each type used	2	EA	1,200,00	2,400
47	Buttons and contacts of each type used	5	EA	500,00	2,500
48	Fuses of each type used	10	EA	80,00	800
49	Bulbs of each type used	10	EA	150,00	1,500
50	Keys of each type used	10	EA	150,00	1,500
Total Amount of SPARE PARTS - Elevator Maintenance & Intercom System (MATERIALS ONLY)					287,362

INTERIM MAINTENANCE - Elevator Maintenance (section 142123, article 1.5)

Item #	Item Description	Quant.	Units	Unit Price	Total
1	Full Comprehensive preventative interim maintenance and related services until final completion and acceptance of both elevators by Commissioner.	2	PER CAR	12,000.	
Total Amount of INTERIM MAINTENANCE - Elevator Maintenance					24,000

GUARANTEE FULL SERVICE ELEVATOR MAINTENANCE (section 142123, article 1.5)

Item #	Item Description	Quant.	Units	Unit Price	Total
1	Full Comprehensive preventative maintenance services for a period of twelve (12) months per each elevator car after the final completion and acceptance of the project.	2	PER CAR	12,000	
Total Amount of FULL SERVICE ELEVATOR MAINTENANCE					24,000

TOTAL AMOUNT OF UNIT PRICE WORK - ELEVATOR MAINTENANCE

SPARE PARTS plus INTERIM MAINTENANCE plus GUARANTEE FULL SERVICE ELEVATOR MAINTENANCE

335,362*

* Insert Total amount of Unit Price Work on line C of Bid Form

BID FORM

PROJECT ID: CO277ELV2

TOTAL BID PRICE: In the space provided below, the Bidder shall indicate the total bid price in figures.

- A. LUMP SUM PRICE - Total price for all labor and material for all required work, excluding items (B), (C) and (D) set forth below. Total Price shall include all costs and expenses, i.e. labor, material overhead and profit for all the Work, described and shown in the drawings and specifications.

Total Price for
Material Sold and
Delivered

Total Price For
Labor

\$ 1,200,000. +

\$ 1,157,673.

Total Price for Item A= \$ 2,357,673.

- B. ALLOWANCE for Incidental Asbestos Abatement
(Section 028013 of the Specifications)

\$15,000.00

- C. AMOUNT for Proprietary Items (pages 2a,2b)

\$2,965.00

- D. Total Amount of Unit Price Work
ELEVATOR MAINTENANCE AND RELATED WORK
(pages 13-1 & 13-2)

\$ 335,362.

\$2,711,000.

TOTAL BID PRICE (Add A + B + C + D)
(a/k/a BID PROPOSAL)

BB 11/2/16


BIDDER'S SIGNATURE AND AFFIDAVIT

- ★ **SUBCONTRACTOR IDENTIFICATION:** You MUST complete and submit the form entitled "Bidder's Identification of Subcontractors" (page 17) at the time you submit your bid. You must submit this form in a separate, sealed envelope (BID ENVELOPE #2). In the event an award of contract is not made to the Bidder, the Bidder hereby authorizes the Agency to shred the form entitled "Bidder's Identification of Subcontractors". ☒ Yes ☐ No

Bidder:

Knightbridge Construction Corp.

By:


J. K. Sadowsky Sadowsky & Pines, Inc. (Signature of Partner or corporate officer)

Attest:
(Corporate Seal)


Secretary of Corporate Bidder

Affidavit on the following page should be subscribed and sworn to before a Notary Public

AFFIRMATION

The undersigned bidder affirms and declares that said bidder is not in arrears to the City of New York upon debt, contract or taxes and is not a defaulter, as surety or otherwise, upon obligation to the City of New York, and has not been declared not responsible, or disqualified, by any agency of the City of New York, nor is there any proceeding pending relating to the responsibility or qualification of the bidder to receive public contracts except None

(If none, the bidder shall insert the word "None" in the space provided above.)

Full Name of Bidder: Knightbridge Construction Corp.
Address: 33 Great Neck Rd
City: Great Neck State: NY Zip Code: 11021

CHECK ONE BOX AND INCLUDE APPROPRIATE NUMBER:

- ☐ A - Individual or Sole Proprietorship *
SOCIAL SECURITY NUMBER
- ☐ B - Partnership, Joint Venture or other unincorporated organization
EMPLOYER IDENTIFICATION NUMBER
- ☒ C - Corporation
EMPLOYER IDENTIFICATION NUMBER

11-2857837

By: [Signature]
Signature:

Title: Jeffrey Sadowsky, P.E.S.

If a corporation, place seal here

This affirmation must be signed by an officer or duly authorized representative.

* Under the Federal Privacy Act the furnishing of Social Security Numbers by bidders on City contracts is voluntary. Failure to provide a Social Security Number will not result in a bidder's disqualification. Social Security Numbers will be used to identify bidders, proposers or vendors to ensure their compliance with laws, to assist the City in enforcement of laws, as well as to provide the City a means of identifying of businesses which seek City contracts.

BID FORM (TO BE NOTARIZED)

AFFIDAVIT WHERE BIDDERS IS AN INDIVIDUAL

STATE OF NEW YORK, COUNTY OF _____ ss:

being duly sworn says:

I am the person described in and who executed the foregoing bid, and the several matters therein stated are in all respects true.

(Signature of the person who signed the Bid)

Subscribed and sworn to before me this
_____ day of _____,

Notary Public

AFFIDAVIT WHERE BIDDERS IS A PARTNERSHIP

STATE OF NEW YORK, COUNTY OF _____ ss:

being duly sworn says:

I am a member of _____ the firm described in and which executed the foregoing bid.
subscribed the name of the firm thereto on behalf of the firm, and the several matters therein stated are in all respects true.

(Signature of Partner who signed the Bid)

Subscribed and sworn to before me this
_____ day of _____,

Notary Public

AFFIDAVIT WHERE BIDDERS IS A CORPORATION

STATE OF NEW YORK, COUNTY OF NASSAU ss:

being duly sworn says:

I am the PRES of the above named corporation whose name is subscribed to and which executed
the foregoing bid. I reside at Great Neck, NY
I have knowledge of the several matters therein stated, and they are in all respects true.

(Signature of Corporate Officer who signed the Bid)

Jeffrey Sadowsky, PRES.

Subscribed and sworn to before me this
_____ day of Nov. 2016

Notary Public

SAMIRA ASSIL
Notary Public - State of New York
NO. 01AS6297164
Qualified in Nassau County
My Commission Expires Feb 18, 2018

11-1-2016

BIDDER'S IDENTIFICATION OF SUBCONTRACTORS

Project ID: CO277ELV2

SUBMISSION: In addition to its Bid (Bid Envelope # 1), the Bidder must, at the time of the bid, complete and submit this form in a separate, sealed envelope (Bid Envelope # 2). To complete this form, the Bidder must identify the subcontractors it intends to use for the work listed below, as well as the dollar amount to be paid to each subcontractor. Failure to complete this form and submit it in a separate, sealed envelope will result in the disqualification of the bid as non-responsive.

The Bidder intends to use the following subcontractors. If the Bidder intends to do any of the work referenced below with its own forces, the Bidder should complete this form using its own name. If multiple subcontractors for any trade are proposed, Bidder may submit multiple copies of this form.

1. **PLUMBING CONTRACTOR:**

Par Plumbing
(Print Name)

Agreed amount to be paid Subcontractor: \$ 12,000.

Description of Plumbing Work:

Plumbing work — sump
pump & piping.

2. **HVAC CONTRACTOR:**

North Pole Air, Inc
(Print Name)

Agreed amount to be paid Subcontractor: \$ 25,000.

Description of HVAC Work:

HVAC work — ductwork,
exhaust FAN, AC, UN,
etc.

3. **ELECTRICAL CONTRACTOR:**

Palace Electrical Contractors Inc
(Print Name)

Agreed amount to be paid Subcontractor: \$ 100,000.

Description of Electrical Work:

power for Elevators & AC
to PRB & LTB, etc.

BIDDER'S SIGNATURE: The Bidder must sign and complete this form in the spaces provided below:

[Signature]
(Bidder's Signature)

Knightbridge Construction Corp
Jeffrey Sadowsky, PRES
(Print Name)

33 Great Neck Rd, Great Neck, NY 11021
(Address)

PRES,
(Title)

516 482 2416
(Phone #)

516 482 9105
(Fax#)

11/2/16
(Date)

BID BREAKDOWN

Submission: Bidders are advised that the requirement to submit a Bid Breakdown applies to each contract for which an "X" is indicated before the word "Yes". If required, the bidder must submit, with its bid, a completed Bid Breakdown. Failure to provide a completed Bid Breakdown may result in rejection of the bid as non-responsive.

X

YES

NO

Limitations on Use of Bid Breakdown:

Bidders are advised that the Bid Breakdown shall be used for bid analysis purposes only and shall not be binding for any other purposes under the Contract, including, without limitation, for payment purposes or in connection with a contractor claim for extra work. If the form for the Bid Breakdown does not include an item of work required by the Contract Documents, such omission shall have no effect whatsoever, nor shall it be used by the contractor in connection with a claim for extra work (i.e., work for which the contractor is entitled to a change order).

Instructions for Preparing Bid Breakdown:

- (A) The Bid Breakdown is set forth on the following pages of this Bid Booklet and is in accordance with the Construction Specification Institute (CSI) format. For all items of work listed in the Bid Breakdown, the bidder must indicate the price for labor and the price for material, as well as the estimated quantities required.
- (B) In preparing its Bid Breakdown, the bidder shall submit prices that include all costs for overhead and profit. Overhead shall include, without limitation, all costs in connection with the following: administration, management, superintendence, small tools, insurance, bonds, and provision of services or items required by the General Conditions [except for Security/Fire Guard Services and Temporary Heat]. If the Project requires Security/Fire Guard Services and/or Temporary Heat, such service(s) will be included as separate line items in the Bid Breakdown.
- (C) If an item is set forth in the Bid Breakdown, but is not included in the Contract Documents (Drawings, Specifications, General Conditions, and/or Addenda), the bidder is advised to leave the item blank and exclude the cost of the item from its grand total. In an attachment to its Bid Breakdown, the bidder shall provide a list of all items left blank.
- (D) If an item is not set forth in the Bid Breakdown, but is included in the Contract Documents (Drawings, Specifications, General Conditions, and/or Addenda), the bidder is advised to add the item to its Bid Breakdown and include the cost of the item in its grand total. In an attachment to its Bid Breakdown, the bidder shall provide a list of all items added.



Department of
Design and
Construction

CONTRACTOR'S BID BREAKDOWN FORM

CONTRACT 1 - GENERAL CONSTRUCTION WORK

Project: Court Square Courthouse Elevator Modernization and Upgrades

Location: 25-10 Court Square, Queens, NY 11101

Bidder: Knightsbridge Construction Corp.

DDC ID: CO277ELV2

Sponsor Agency: DCAS

CSI Number	Description	Quantity	Unit	Unit Cost of Material	Total Cost of Material	Unit Cost of Labor	Total Cost of Labor	Total Cost: Materials and Labor
CONTRACT 1 - GENERAL CONSTRUCTION WORK								
01 0000	GENERAL REQUIREMENTS							
01 0000	MOBILIZATION							
	Security Guards		LS					
	Subtotal							
02 0000	EXISTING CONDITIONS							
02 4119	SELECTIVE STRUCTURE DEMOLITION							
	Protecting hoistway and machine rooms during construction		ls					
	Machine room slab concrete slabs, elevator pit, supports, etc.		ls					
	Access ladders		ea					
	Barricades to protect the hoistway openings during equipment installation		ls					
	Protect each hoistway entrance head and side jamb after installation with plywood		openings					
	Provide a continuous sill support at each hoistway, opening 3'-4"		lf					
	New Stairway with 42" high handrails for access to machine level		ea					
	Scaffolding and misc coordination & protection		ls					
	Remove existing cab flooring		sf					
	Remove doors		ea					
	Smoke vent to be removed from machine room		loc					
	Existing concrete pads to be removed from machine room		ea					
	Subtotal							
03 0000	CONCRETE							
03 3000	CAST-IN-PLACE CONCRETE							
	Cutting concrete slabs as required, patching & finishing		elev					
	Cover smoke vent to match existing (4'x3') w/ concrete infill over metal deck		ls					
	Subtotal							

General Conditions = 864,673

Bonds & Insur = 150,000

by E2V Sub.

3,000



Department of
Design and
Construction

CONTRACTOR'S BID BREAKDOWN FORM

CONTRACT 1 - GENERAL CONSTRUCTION WORK

Project: Court Square Courthouse Elevator Modernization and Upgrades

Location: 25-10 Court Square, Queens, NY 11101

Bidder:

Knightsbridge Construction Corp

DDC ID: CO277ELV2

Sponsor Agency: DCAS

CSI Number	Description	Quantity	Unit	Unit Cost of Material	Total Cost of Material	Unit Cost of Labor	Total Cost of Labor	Total Cost: Materials and Labor
04 0000	MASONRY							
04 2000	UNIT MASONRY							
	Patching, repairing, and installing of masonry or drywall for hoistway installation		stops					
	Grouting new entrance sills and frames		stops					
	Patch concrete at grille removal		ea					
	Subtotal							
05 0000	METALS							
05 3000	METAL DECKING							
	Cutting of openings		ls					
	Subtotal							
05 7000	DECORATIVE METAL							
	1-1/2" brushed brass handrail at interior cab		lf					
	Woven metal panels at interior cab walls and ceiling		sf					
	all projections, recessed or setback over 2"		openings					
	Access ladders		ea					
	New Stairway with 42" high handrails for access to machine level		ea					
	Subtotal							
07 0000	THERMAL AND MOISTURE PROTECTION							
07 8413	PENETRATION FIRESTOPPING							
	Waterproof elevator pits and setting pit supports and rails		ea					
	Penetration Firestopping		ls					
	Subtotal							
07 9200	JOINT SEALANTS							
	Caulking and sealing		ls					
	Subtotal							



Department of
Design and
Construction

CONTRACTOR'S BID BREAKDOWN FORM

CONTRACT 1 - GENERAL CONSTRUCTION WORK

Project: Court Square Courthouse Elevator Modernization and Upgrades

Location: 25-10 Court Square, Queens, NY 11101

Bidder: Knightsbridge Construction Corp

DDC ID: CO277ELV2

Sponsor Agency: DCAS

CSI Number	Description	Quantity	Unit	Unit Cost of Material	Total Cost of Material	Unit Cost of Labor	Total Cost of Labor	Total Cost: Materials and Labor
08 0000	OPENINGS							
08 1113	HOLLOW METAL DOORS AND FRAMES							
	36" wide 16 GA insulated HM door w/ 90-min fire rated self closing, self locking hardware at machine room		ea					
	Fire rated access doors w/ automatic closing devices and self-latching lock		ea					3,000
	Access doors - in addition to mechanical		ls					
	Subtotal							
08 7100	DOOR HARDWARE (included w/ 081113)							
09 0000	FINISHES							
09 2116.23	GYPSUM BOARD SHAFT WALL ASSEMBLIES							
	Patching, repairing, and installing of masonry or drywall for hoistway installation		stops					
	5/8" gyp. Bd. Laminated at removed window		loc					200,000
	Miscellaneous blocking, supports, and general carpentry		ls					
	Subtotal							
09 2216	NON-STRUCTURAL METAL FRAMING (included w/ 092116.23)							
09 6623	RESINOUS MATRIX TERRAZZO FLOORING							
	Provide new epoxy terrazzo floor		sf					
	Stone Tiling: new limestone threshold, 3/4"		ea					
	Subtotal							
09 9123	INTERIOR PAINTING							
	Remove, paint, and reinstall wrought iron grills		sf					
	Repaint exterior elevator enclosure, wrought iron and doors:							
	Doors, 3/4"x6'8"		ea					

by EHV sub

by EHV sub



Department of
Design and
Construction

CONTRACTOR'S BID BREAKDOWN FORM

CONTRACT 1 - GENERAL CONSTRUCTION WORK

Project: Court Square Courthouse Elevator Modernization and Upgrades
Location: 25-10 Court Square, Queens, NY 11101

Bidder: Knightsbridge Const Corp

DDC ID: CO277ELV2
Sponsor Agency: DCAS

CSI Number	Description	Quantity	Unit	Unit Cost of Material	Total Cost of Material	Unit Cost of Labor	Total Cost of Labor	Total Cost: Materials and Labor
	Enclosure		sf					
	Paint HM doors and frames		ea					
	Subtotal							
09 9419	MULTICOLOR INTERIOR FINISHING							
	Repainting above wainscoting at basement level to match elevator enclosure - 4' height above wainscoting		sf					
	Paint gypsum board behind wrought iron grills		sf					
	Subtotal							
10 0000	SPECIALTIES							
10 1423	PANEL SIGNAGE							
	"Danger Elevator Plt" sign		ea					
	1'x1' exit plan signage		ea					
	Misc. specialties		ls					
	Subtotal							
14 0000	CONVEYING EQUIPMENT							
14 2105	ELEVATOR CABS (included w/ 142123)							
14 2123	ELECTRIC TRACTION PASSENGER ELEVATORS							
	Controller		ea					
	Motor-drive		ea					
	Hoist machine replacement		ea					
	Dispatchers		ls					
	Governors		ea					
	Hoistway door operating equipment		ea					
	Car door operators		ea					
	Hall call		ea					
	Car arrival lanterns		ea					

950,000

2,000

10,000



Department of
Design and
Construction

CONTRACTOR'S BID BREAKDOWN FORM

CONTRACT 1 - GENERAL CONSTRUCTION WORK

Project: Court Square Courthouse Elevator Modernization and Upgrades
Location: 25-10 Court Square, Queens, NY 11101

Bidder: Knightsbridge Const Corp

DDC ID: CO277ELV2
Sponsor Agency: DCAS

CSI Number	Description	Quantity	Unit	Unit Cost of Material	Total Cost of Material	Unit Cost of Labor	Total Cost of Labor	Total Cost: Materials and Labor
	Car operating panels		ea					
	Intercom		ea					
	Wiring and travelers		ea					
	Limits		ea					
	Cabs		ea					
	Buffers		ea					
	Wire ropes		ea					
	Guide rail overhaul		ea					
	Car sling/platform		ea					
	Roller guides car and Cwt		ea					
	Counterweight overhaul		ea					
	Spare parts		ls					
	Misc.		ea					
	Subtotal							
22 0000	PLUMBING							
22 0002	PLUMBING GENERAL CONDITIONS							
	Miscellaneous plumbing demo		ls					
	Testing		ls					
	Firestopping / patching		ls					
	Miscellaneous plumbing work		ls					
	Subtotal							
22 0523	VALVES (included w/ 221316)							
22 0529	HANGERS, SUPPORTS, ANCHORS AND GUIDES (included w/ 221316)							

See above

15,000



Department of
Design and
Construction

CONTRACTOR'S BID BREAKDOWN FORM

CONTRACT 1 - GENERAL CONSTRUCTION WORK

Project: Court Square Courthouse Elevator Modernization and Upgrades
Location: 25-10 Court Square, Queens, NY 11101

Bidder: Knightsbridge Const Corp

DDC ID: CO277ELV2
Sponsor Agency: DCAS

CSI Number	Description	Quantity	Unit	Unit Cost of Material	Total Cost of Material	Unit Cost of Labor	Total Cost of Labor	Total Cost: Materials and Labor
22 1316	SANITARY WASTE AND VENT PIPING AND FITTING MATERIALS							
	Pump discharge piping:							
	2" Pipe size		If					
	Check valve, 2"		ea					
	Cleanout		ea					
	Tie-in to existing system		ea					
	Subtotal							
22 1429	SUMP PUMPS							
	Elevator sump pump; 50 gpm, 20 fth, remote control panel for oil monitoring, and alarm, control wiring - factory supplied		ea					
	Subtotal							
23 0000	HEATING, VENTILATING, AND AIR-CONDITIONING (HVAC)							
23 0002	HVAC SPECIAL CONDITIONS (included w/ 230003)							
23 0003	HVAC SCOPE OF WORK							
	Demo Air conditioner, window type		ea					
	Demo Electric unit heater		ea					
	Demo exhaust fan		ea					
	Demo Motor operated damper		ea					
	Patch wall opening for AC window unit		ea					
	Miscellaneous mechanical demo		ls					
	Controls:							
	Split AC system		ea					
	MOD		ea					
	Fan		ea					
	Thermostat		ea					
	Smoke detector, duct type		ea					

See above

30,000



Department of
Design and
Construction

CONTRACTOR'S BID BREAKDOWN FORM

CONTRACT 1 - GENERAL CONSTRUCTION WORK

Project: Court Square Courthouse Elevator Modernization and Upgrades

Location: 25-10 Court Square, Queens, NY 11101

Bidder:

Knightsbridge Const Corp

DDC ID: C0277ELV2

Sponsor Agency: DCAS

CSI Number	Description	Quantity	Unit	Unit Cost of Material	Total Cost of Material	Unit Cost of Labor	Total Cost of Labor	Total Cost: Materials and Labor
	Control / low voltage wiring		ls					
	Testing		ls					
	Holisting / Distribution / Elevator Time		ls					
	Subtotal							
23 0005	ACCESS DOORS IN GENERAL CONSTRUCTION (included w/ 231113)							
23 0200	FIRESTOPPING							
	Firestopping		ls					
	Subtotal							
23 0513	ELECTRIC MOTORS (included w/ 230003)							
23 0529	HANGERS, ANCHORS AND SUPPORTS (included w/ 231113 & 235210)							
23 0548	VIBRATION ISOLATION (included w/ 230003)							
23 0553	SYSTEMS IDENTIFICATION (included w/ 231113 & 235210)							
23 0593	TESTING, ADJUSTING AND BALANCING							
	Air Balancing		ls					
	Subtotal							
23 0700	INSULATION (included w/ 231113 & 235210)							
23 1113	SHEETMETAL							
	Air Distribution:							
	Ducted Elevator Vent With Firewrap		ea					

See above



Department of
Design and
Construction

CONTRACTOR'S BID BREAKDOWN FORM

CONTRACT 1 - GENERAL CONSTRUCTION WORK

Project: Court Square Courthouse Elevator Modernization and Upgrades
Location: 25-10 Court Square, Queens, NY 11101

Bidder: Knightsbridge Const Corp

DDC ID: CO277ELV2
Sponsor Agency: DCAS

CSI Number	Description	Quantity	Unit	Unit Cost of Material	Total Cost of Material	Unit Cost of Labor	Total Cost of Labor	Total Cost: Materials and Labor
	Louver		ea					
	Gravity damper		ea					
	MOD		ea					
	MOD OAI		ea					
	Fire wrap for existing louver sheet metal plenum		ls					
	Access door		ea					
	Tie-in to existing system		loc					
	Motor operated damper		ea					
	Subtotal							
23 3313	DAMPERS (included w/ 231113)							
23 5210	PIPING AND ACCESSORIES							
	DX Tubing, including terminations G/L sliced insulation		If					
	Refrigerant fill		ea					
	Condensate drain with insulation		If					
	Tie-in to existing system		ea					
	Subtotal							
23 6210	AIR COOLED AIR CONDITIONING UNITS							
	Equipment: Split AC system; 775 cfm, cly 24 / htg 18 mbh		ea					
	Equipment hook-up: Split AC system		ea					
	Subtotal							
23 7305	FANS							
	EF-1-EMR, 250 cfm		ea					
	Subtotal							
23 8440	SPACE HEATING UNITS							
	Electric unit heater; 11.2 mbh, 3.3 kW, suspended		ea					
	Subtotal							

See above



**Department of
Design and
Construction**

CONTRACTOR'S BID BREAKDOWN FORM

CONTRACT 1 - GENERAL CONSTRUCTION WORK

Project: Court Square Courthouse Elevator Modernization and Upgrades
Location: 25-10 Court Square, Queens, NY 11101
Bidder: Knightsbridge Const Corp.

DDC ID: CO277ELV2
Sponsor Agency: DCAS

CSI Number	Description	Quantity	Unit	Unit Cost of Material	Total Cost of Material	Unit Cost of Labor	Total Cost of Labor	Total Cost: Materials and Labor
23 8600	ELECTRIC MOTOR CONTROLLERS (included w/ 230003)							
26 0000	<u>ELECTRICAL</u>							
26 0003	<u>ELECTRICAL SCOPE OF WORK</u>							
	Demolition (disconnect and make safe only):							
	Power to (2) elevators	1	ls					
	Lighting fixtures, power and FA system devices w/conduit and wire		ls					
	Lighting fixture type "FK-A"		ea					
	Lighting fixture type "FK-A", em		ea					
	Lighting fixture type "FK-B", W/P		ea					
	Temporary power and light		ls					
	Cutting/patching		ls					
	Protect existing equipment and devices during construction		ls					
	Miscellaneous electrical work		ls					
	Subtotal							
26 0005	ACCESS DOORS IN GENERAL CONSTRUCTION (included w/ 260003)							
26 0250	SYSTEMS IDENTIFICATION (included w/ 260003)							130,000
26 0265	TESTING, ADJUSTING AND BALANCING							
	Tie-in to existing Fire Alarm system/reprogramming/testing		ls					
	Termination/testing - Video Surveillance System		ls					
	Subtotal							
26 0280	EQUIPMENT CONNECTIONS AND COORDINATION							
	Elevator controller (F.B.O.)		ea					
	Elevator control panel (F.B.O.)		ea					



Department of
Design and
Construction

CONTRACTOR'S BID BREAKDOWN FORM

CONTRACT 1 - GENERAL CONSTRUCTION WORK

Project: Court Square Courthouse Elevator Modernization and Upgrades

Location: 25-10 Court Square, Queens, NY 11101

Bidder:

Knightsbridge Const Corp.

DDC ID: CO27ZELV2

Sponsor Agency: DCAS

CSI Number	Description	Quantity	Unit	Unit Cost of Material	Total Cost of Material	Unit Cost of Labor	Total Cost of Labor	Total Cost: Materials and Labor
	Manual toggle switch		ea					
	Automatic louver damper		ea					
	Electric unit heater		ea					
	AC unit AC-1-EMR		ea					
	Condenser unit ACCU-1-EMR		ea					
	Fan EF-1-EMR		ea					
	Sump pump		ea					
	Elevator (15HP)		ea					
	Subtotal							
26 0290	CEILING, FLOOR AND WALL ELECTRICAL PENETRATION FIRE SEALS							
	Fire watch		ls					
	Cutting/patching		ls					
	Sleeves/firestopping		ls					
	Subtotal							
26 0519	600 VOLT WIRE AND CABLE							
	# 3/0 wire (feeders)		lf					
	# 3 wire (feeders)		lf					
	# 3 wire (mechanical)		lf					
	# 4 wire (mechanical)		lf					
	# 6 wire (feeders)		lf					
	# 8 wire (feeders)		lf					
	# 8 wire (mechanical)		lf					
	# 12 wire (branch circuitry)		lf					
	# 12 wire (lighting)		lf					
	# 12 wire (FA)		lf					
	# 12 wire (mechanical)		lf					
	# 18 wire (video surveillance)		lf					
	Subtotal							

See

above



Department of
Design and
Construction

CONTRACTOR'S BID BREAKDOWN FORM

CONTRACT 1 - GENERAL CONSTRUCTION WORK

Project: Court Square Courthouse Elevator Modernization and Upgrades
Location: 25-10 Court Square, Queens, NY 11101

Bidder: Knightsbridge Const Corp

DDC ID: CO277ELV2
Sponsor Agency: DCAS

CSI Number	Description	Quantity	Unit	Unit Cost of Material	Total Cost of Material	Unit Cost of Labor	Total Cost of Labor	Total Cost: Materials and Labor
26 0526	GROUNDING SYSTEM (included w/ 260519)							
26 0533	RACEWAYS AND BOXES							
	Tap box		ea					
	Junction box		ea					
	2" RGS - empty (mechanical)		If					
	1 1/2" RGS (feeders)		If					
	1" RGS (mechanical)		If					
	3/4" RGS (mechanical)		If					
	3/4" RGS conduit (lighting)		If					
	3/4" RGS conduit (branch circuitry)		If					
	3/4" RGS (FA)		If					
	3/4" RGS (video surveillance)		If					
	Subtotal							
26 0548	VIBRATION ISOLATION AND SEISMIC RESTRAINTS							
	Vibration Isolation and Seismic Restraints		ls					
	Subtotal							
26 2416	PANELBOARDS							
	Panelboards		ls					
	100 Amp panel		ea					
	Panel mounting assembly		ea					
	Subtotal							
26 2726	WIRING DEVICES							
	GFI duplex receptacle		ea					
	GFI duplex receptacle, WP		ea					
	Single pole light switch		ea					
	Single pole light switch, WP		ea					
	Subtotal							

See above



Department of
Design and
Construction

CONTRACTOR'S BID BREAKDOWN FORM

CONTRACT 1 - GENERAL CONSTRUCTION WORK

Project: Court Square Courthouse Elevator Modernization and Upgrades

Location: 25-10 Court Square, Queens, NY 11101

Bidder:

Knightsbridge Const Corp.

DDC ID: CO277ELV2

Sponsor Agency: DCAS

CSI Number	Description	Quantity	Unit	Unit Cost of Material	Total Cost of Material	Unit Cost of Labor	Total Cost of Labor	Total Cost: Materials and Labor
26 2813	FUSES (600 V AND LESS) 200 Amp switch		ea					
	Subtotal							
26 2816	DISCONNECT SWITCHES 100 Amp NEMA 1 disconnect switch 30 Amp NEMA 3R disconnect switch		ea					
	Subtotal							
28 0000	ELECTRONIC SAFETY AND SECURITY VIDEO SURVEILLANCE REMOTE DEVICES AND SENSORS							
28 2329	Controller Ethernet converter Power supply Camera (Bosch flexidome corner 9000 1R) Cable RG 6 Cable RG 59 FO cable		ea ea ea ea lf lf lf					
	Subtotal							
28 3100	FIRE ALARM AND DETECTION SYSTEM Warden station Smoke detector, elevator recall Smoke detector Combination speaker/strobe Relay Miscellaneous work (support, signage, etc)		ea ea ea ea ea ls					
	Subtotal							
	TOTAL CONTRACT 1 - GENERAL CONSTRUCTION WORK							2,357,673

see above

+ Adjusts Allowance = 15,000
+ Provisional Items = 1,965
+ Elevator maintenance = 335,362
Total Bid Price = \$2,711,000

**BID BOND 1
FORM OF BID BOND**

KNOW ALL MEN BY THESE PRESENTS. That we, _____

KNIGHTSBRIDGE CONSTRUCTION CORP.

33 GREAT NECK ROAD, GREAT NECK, NY 11021

hereinafter referred to as the "Principal", and _____

Hartford Fire Insurance Company

One Hartford Plaza, Hartford, CT 06155-0001

hereinafter referred to as the "Surety" are held and firmly bound to **THE CITY OF NEW YORK**, hereinafter referred to as the "CITY", or to its successors and assigns in the penal sum of

Ten Percent of Amount Bid

(\$ 10%), Dollars lawful money of the United States, for the payment of which said sum of money well and truly to be made, we, and each of us, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

Whereas, the Principal is about to submit (or has submitted) to the City the accompanying proposal, hereby made a part hereof, to enter into a contract in writing for _____

PROJECT ID: CO277ELV2, COURT SQUARE COURTHOUSE - ELEVATOR MODERNIZATION
AND UPGRADES/QUEENS

NOW, THEREFORE, the conditions of this obligation are such that if the Principal shall not withdraw said Proposal without the consent of the City for a period of forty-five (45) days after the opening of bids and in the event of acceptance of the Principal's Proposal by the City, if the Principal shall:

(a) Within ten (10) days after notification by the City, execute in quadruplicate and deliver to the City all the executed counterparts of the Contract in the form set forth in the Contract Documents, in accordance with the proposal as accepted, and

(b) Furnish a performance bond and separate payment bond, as may be required by the City, for the faithful performance and proper fulfillment of such Contract, which bonds shall be satisfactory in all respects to the City and shall be executed by good and sufficient sureties, and

(c) In all respects perform the agreement created by the acceptance of said Proposal as provided in the Information for Bidders, bound herewith and made a part hereof, or if the City shall reject the aforesaid Proposal, then this obligation shall be null and void; otherwise to remain in full force and effect.

BID BOND 2

In the event that the Proposal of the Principal shall be accepted and the Contract be awarded to him the Surety hereunder agrees subject only to the payment by the Principal of the premium therefore, if requested by the City, to write the aforementioned performance and payment bonds in the form set forth in the Contract Documents.

It is expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall in no event exceed the penal amount of this obligation as herein stated.

There shall be no liability under this bond if, in the event of the acceptance of the Principal's Proposal by the City, either a performance bond or payment bond, or both, shall not be required by the City on or before the 30th day after the date on which the City signs the Contract.

The surety, for the value received, hereby stipulates and agrees that the obligations of the Surety and its bond shall in no way be impaired or affected by any postponements of the date upon which the City will receive or open bids, or by any extensions of the time within which the City may accept the Principal's Proposal, or by any waiver by the City of any of the requirements of the Information for Bidders, and the Surety hereby waives notice of any such postponements, extensions, or waivers.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers the 12th day of October, 2016.

(Seal)

KNIGHTSBRIDGE CONSTRUCTION CORP. (L.S.)

Principal

By:

Jerry Sadowsky, PRES.

(Seal)

Hartford Fire Insurance Company

Surety

By:

Dennis M. O'Brien

Attorney-in-Fact



at 1000 ft.

ACKNOWLEDGMENT OF PRINCIPAL - IF A CORPORATION

STATE OF NY } ss
COUNTY OF Nassau

On this 13 day of Oct, 2016 before me personally appeared
Jeffrey Sadowsky to be known, who, being by me duly sworn, did depose and
say; that he/she resides at Great Neck, NY, that he/she is the Pres
of Knightsbridge Construction Corp. the corporation described in and which
executed the within insurance instrument; that he/she knows the seal of said corporation; that the seal affixed
to said instrument is such corporate seal; that it was so affixed by the Board of Directors of said corporation;
and that he/she signed his/her name thereto by like order.
Notary Public - State of New York
No. 01NA6328561

Qualified in Queens County
My Commission Expires Aug. 03, 2019

GLORIA ALONSO ACKNOWLEDGMENT OF PRINCIPAL - IF INDIVIDUAL OR FIRM

STATE OF } ss
COUNTY OF

On this day of before me personally appeared
..... to me know to be (the individual) (one of the firm
of.....), described in and who executed the within instrument and he/she
thereupon acknowledged to me that he/she executed the same (as the act and deed of said firm).

ACKNOWLEDGMENT OF SURETY COMPANY

STATE OF New York } ss
COUNTY OF Westchester

On this October 12, 2016, before me personally came Dennis M. O'Brien
to me known, who, being by me duly sworn, did depose and say; that he/she resides in
North Merrick, New York; that he/she is the Attorney-in-Fact of the
HARTFORD FIRE INSURANCE COMPANY the corporation described in which
executed the above instrument; that he/she knows the seal of said corporation; that the seal affixed to said
instrument is such corporate seal; that it was so affixed by the Board of Directors of said corporation; and that
he/she signed his/her name thereto by like order; and the affiant did further depose and say that the
Superintendent of Insurance of the State of New York, has, pursuant to Section 1111 of the Insurance Law of
the State of New York, issued to Dennis M. O'Brien his/her
certificate of qualification evidencing the qualification of said Company and its sufficiency under any law of the
State of New York as surety and guarantor, and the propriety of accepting and approving it as such; and that
such certificate has not been revoked.

ALICE MCCARTHY
NOTARY PUBLIC, State of New York
No. 01MC5079342
Qualified in Dutchess County
Commission Expires June 02, 2019

Alice McCarthy
Notary Public

HARTFORD FIRE INSURANCE COMPANY

Hartford, Connecticut
Financial Statement, June 30, 2015
Statutory Basis

ASSETS

U.S. Government Bonds	\$	533,553,387
Bonds of Other Governments		202,721,962
State, County Municipal		
Miscellaneous Bonds		12,026,752,858
Stocks		6,091,137,214
Short Term Investments		571,505,168
	\$	<u>19,425,670,589</u>
Real Estate	\$	267,674,011
Cash		71,754,241
Agents' Balances (Under 90 Day)		2,491,856,403
Other Invested Assets		461,431,100
Miscellaneous		3,103,624,786
Total Admitted Assets	\$	<u>25,822,011,130</u>

LIABILITIES

Reserve for Claims	\$	
and Claim Expense		7,577,447,644
Reserve for Unearned Premiums		2,118,361,643
Reserve for Taxes, License		
and Fees		50,501,604
Miscellaneous Liabilities		2,358,402,298
Total Liabilities	\$	<u>12,104,713,189</u>
Capital Paid In	\$	55,320,000
Surplus		<u>13,661,977,941</u>
Surplus as regards Policyholders	\$	<u>13,717,297,941</u>
Total Liabilities, Capital		
and Surplus	\$	<u>25,822,011,130</u>

STATE OF CONNECTICUT
COUNTY OF HARTFORD
CITY OF HARTFORD

} ss.

M. Ross Fisher, Vice President, and John Gray, Assistant Secretary of the Hartford Fire Insurance Company, being duly sworn, each deposes and say that the foregoing is a true and correct statement of the said company's financial condition as of June 30, 2015.

Subscribed and sworn to before me
this 7th day of October 2015.

Kathleen T. Maynard

Kathleen T. Maynard
Notary Public

My Commission Expires July 31, 2016



M. Ross Fisher

M. Ross Fisher, Vice President

John Gray

John Gray, Assistant Secretary

POWER OF ATTORNEY

Direct Inquiries/Claims to:

THE HARTFORD

Bond T-12

One Hartford Plaza

Hartford, Connecticut 06155

Bond.Claims@thehartford.com

call: 888-266-3488 or fax: 860-757-5835)

Agency Code: SurePath

KNOW ALL PERSONS BY THESE PRESENTS THAT:

- ☒ Hartford Fire Insurance Company, a corporation duly organized under the laws of the State of Connecticut
☐ Hartford Casualty Insurance Company, a corporation duly organized under the laws of the State of Indiana
☐ Hartford Accident and Indemnity Company, a corporation duly organized under the laws of the State of Connecticut
☐ Hartford Underwriters Insurance Company, a corporation duly organized under the laws of the State of Connecticut
☐ Twin City Fire Insurance Company, a corporation duly organized under the laws of the State of Indiana
☐ Hartford Insurance Company of Illinois, a corporation duly organized under the laws of the State of Illinois
☐ Hartford Insurance Company of the Midwest, a corporation duly organized under the laws of the State of Indiana
☐ Hartford Insurance Company of the Southeast, a corporation duly organized under the laws of the State of Florida

having their home office in Hartford, Connecticut (hereinafter collectively referred to as the "Companies") do hereby make, constitute and appoint

Dennis M. O'Brien of White Plains, NY

their true and lawful Attorney-in-Fact, to sign its name as surety(ies) only as delineated above by ☒, and to execute, seal and acknowledge the following bond, undertaking, contract or written instrument:

Bond No. Bid Bond

on behalf of **KNIGHTSBRIDGE CONSTRUCTION CORP.**

as Oblige in the amount of See Bond Form

City of New York

on behalf of the Companies in their business of guaranteeing the fidelity of persons, guaranteeing the performance of contracts and executing or guaranteeing bonds and undertakings required or permitted in any actions or proceedings allowed by law.

In Witness Whereof, and as authorized by a Resolution of the Board of Directors of the Companies on May 6, 2015 the Companies have caused these presents to be signed by its Senior Vice President and its corporate seals to be hereto affixed, duly attested by its Assistant Secretary. Further, pursuant to Resolution of the Board of Directors of the Companies, the Companies hereby unambiguously affirm that they are and will be bound by any mechanically applied signatures applied to this Power of Attorney.



John Gray

John Gray, Assistant Secretary

M. Ross Fisher

M. Ross Fisher, Senior Vice President

STATE OF CONNECTICUT

ss. Hartford

COUNTY OF HARTFORD

On this 11th day of January, 2016, before me personally came M. Ross Fisher, to me known, who being by me duly sworn, did depose and say: that he resides in the County of Hartford, State of Connecticut; that he is the Senior Vice President of the Companies, the corporations described in and which executed the above instrument; that he knows the seals of the said corporations; that the seals affixed to the said instrument are such corporate seals; that they were so affixed by authority of the Boards of Directors of said corporations and that he signed his name thereto by like authority.



Kathleen T. Maynard

Kathleen T. Maynard
Notary Public

My Commission Expires July 31, 2021

CERTIFICATE

I, the undersigned, Assistant Vice President of the Companies, DO HEREBY CERTIFY that the above and foregoing is a true and correct copy of the Power of Attorney executed by said Companies, which is still in full force effective as of October 12, 2016
Signed and sealed at the City of Hartford.



Kevin Heckman

Kevin Heckman, Assistant Vice President

Tax ID #: 11-2857837APT E-
PIN#: 85016B0156

Contract # 1 - General Construction Work

SCHEDULE B - M/WBE Utilization Plan**Part I: M/WBE Participation Goals**

Part I to be completed by contracting agency

Contract Overview

APT E-Pin # 85016B0156 FMS Project ID#: CO277ELV2
 Project Title/Agency Court Square Courthouse Elevator Modernization and Upgrades
 PIN # 8502016CT0015C
 Bid/Proposal
 Response Date: OCTOBER 12, 2016
 Contracting Agency Department of Design and Construction
 Agency Address 30-30 Thomson Avenue City Long Island City State NY Zip Code 11101
 Contact Person Norma Negrón Title MWBE Liaison & Compliance Analyst
 Telephone # (718) 391-1502 Email negronn@ddc.nyc.gov

Project Description (attach additional pages if necessary)

This Project consists of the modernization and upgrades of two passengers elevators located in the building to bring the elevator system up to local code. The two elevators have been problematic for many years and desperately need to be renovated. In general, the scope of work with this project includes: Cooling and heating of the elevator machine room. Hoistway venting and smoke detection to comply with local codes. Cab Flooring - Remove existing and provide new epoxy terrazzo for the two elevators. Cab Walls - Remove existing 1" thick plastic laminate panels and provide new 3/4" thick hardwork veneer core panels with wood edge strips for the two elevators. Cab Railing - Remove existing 1-1/2" thick wood slat railing and provide new 2" metal railing for the two elevators. Cab lighting - Remove existing marble 3'X4' light fixture (including acrylic lens and wood trim) and provide new 8" wide granite for the two elevators. Threshold - Remove existing marble (basement) or mosaic tile (1st - 4th floors) and provide new 8" wide granite for the elevators at 3LF/each/floor. Hoistway Enclosure - Remove existing wrought iron decorative panels at all 5 floors, remove existing paint and refinish all existing metals (322 SF/floor). Hoistway Enclosure - Install new metallic wall covering or zolatone polomox (roll applied) high resistance coating behind existing wrought iron decorative panels at all 5 floors (161 SF/floor). Structural improvements that relate to the architectural, elevator, and HVAC scope of work. Electrical work to facilitate the installation of upgraded elevator equipment, including fire alarm tie-ins.

M/WBE Participation Goals for Services

Enter the percentage amount for each group or for an unspecified goal. Please note that there are no goals for Asian Americans in Professional Services

Prime Contract Industry: Construction

Group	Percentage	
<u>Unspecified *</u>	<u>16</u>	<u>%</u>
or		
Black American	<u>Unspecified</u>	<u>%</u>
Hispanic American	<u>Unspecified</u>	<u>%</u>
Asian American	<u>Unspecified</u>	<u>%</u>
Women	<u>Unspecified</u>	<u>%</u>
Total Participation Goals	16	%

Line 1

* Note: For this procurement, individual ethnicity and gender goals are not specified. The Total Participation Goals for construction contracts may be met by using Black American, Hispanic American, Asian American or Women certified firms or any combination of such firms.

Tax ID #:

11-2857837

APT E-

PIN#:

85016B0156

SCHEDULE B - Part II: M/WBE Participation Plan

Part II to be completed by the bidder/proposer:

Please note: For Non-M/WBE Prime Contractors who will NOT subcontract any services and will self-perform the entire contract, you must obtain a FULL waiver by completing the Waiver Application on pages 9 and 9a and timely submitting it to the contracting agency pursuant to the Notice to Prospective Contractors. Once a FULL WAIVER is granted, it must be included with your bid or proposal and you do not have to complete or submit this form with your bid or proposal.

Section I: Prime Contractor Contact Information

Tax ID # 11-2857837 FMS Vendor ID # _____
 Business Name Knightbridge Construction Corp. Contact Person Jeffrey Sadowsky
 Address 33 Great Neck Rd Great Neck, NY 11021
 Telephone # 516 482 2416 Email Knightcorp1@aol.com

Section II: M/WBE Utilization Goal Calculation: Check the applicable box and complete subsection.**PRIME CONTRACTOR ADOPTING AGENCY M/WBE PARTICIPATION GOALS**

☒ For Prime Contractors (including Qualified Joint Ventures and M/WBE firms) adopting Agency M/WBE Participation Goals.

Calculate the total dollar value of your total bid that you agree will be awarded to M/WBE subcontractors for services and/or credited to an M/WBE prime contractor or Qualified Joint Venture.

Please review the Notice to Prospective Contractors for more information on how to obtain credit for M/WBE participation.

Total
Bid/Proposal
Value

Agency Total
Participation Goals
(Line 1, Page 6)

Calculated M/WBE
Participation Amount

\$2,711,000. x

16%

=

\$ 433,760.
Line 2

PRIME CONTRACTOR OBTAINED PARTIAL WAIVER APPROVAL: ADOPTING MODIFIED M/WBE PARTICIPATION GOALS

☐ For Prime Contractors (including Qualified Joint Ventures and M/WBE firms) adopting Modified M/WBE Participation Goals.

Calculate the total dollar value of your total bid that you agree will be awarded to M/WBE subcontractors for services and/or credited to an M/WBE prime contractor or Qualified Joint Venture.

Please review the Notice to Prospective Contractors for more information on how to obtain credit for M/WBE participation.

Total
Bid/Proposal
Value

Adjusted
Participation Goal
(From Partial Waiver)

Calculated M/WBE
Participation Amount

\$

x

=

\$
Line 3



Section III: M/WBE Utilization Plan: How Proposer/Bidder Will Fulfill M/WBE Participation Goals. Please review the Notice to Prospective Contractors for more information on how to obtain credit for M/WBE participation. Check applicable box. The Proposer or Bidder will fulfill the M/WBE Participation Goals:

☐ As an M/WBE Prime Contractor that will self-perform and/or subcontract to other M/WBE firms a portion of the contract the value of which is at least the amount located on Lines 2 or 3 above, as applicable. The value of any work subcontracted to non-M/WBE firms will not be credited towards fulfillment of M/WBE Participation Goals. Please check all that apply to Prime Contractor:

☐ MBE ☐ WBE

☐ As a Qualified Joint Venture with an M/WBE partner, in which the value of the M/WBE partner's participation and/or the value of any work subcontracted to other M/WBE firms is at least the amount located on Lines 2 or 3 above, as applicable. The value of any work subcontracted to non M/WBE firms will not be credited towards fulfillment of M/WBE Participation Goals.

☐ As a non M/WBE Prime Contractor that will enter into subcontracts with M/WBE firms the value of which is at least the amount located on Lines 2 or 3 above, as applicable.

Section IV: General Contract Information

What is the expected percentage of the total contract dollar value that you expect to award in subcontracts for services, regardless of M/WBE status? % 60

Enter brief description of the type(s) and dollar value of subcontracts for all any services you plan on subcontracting if awarded this contract. For each item, indicate whether the work is designated for participation by MBEs and/or WBEs and the time frame in which such work is scheduled to begin and end. Use additional sheets if necessary.

1. Elevator	- 950,000 (some surplus mbe)
2. Plumbing	- 12,000
3. HVAC	- 25,000
4. Electrical	- 100,000
5. Asbestos Abatement	- 15,000 (Allowance)
6. Miscellaneous Items	- 3,000 (Allowance)
7. H M Haul A	- 3,000 (mbe)
8. GWO + Stnds	- 200,000
9.	
10.	
11.	
12.	
13.	
14.	
15.	
16.	
17.	

✓ Scopes of Subcontract Work

Section V: Vendor Certification and Required Affirmations

I hereby:

1) acknowledge my understanding of the M/WBE participation requirements as set forth herein and the pertinent provisions of Section 6-129 of the Administrative Code of the City of New York (Section 6-129), and the rules promulgated thereunder;

2) affirm that the information supplied in support of this M/WBE Utilization Plan is true and correct;

3) agree, if awarded this Contract, to comply with the M/WBE participation requirements of this Contract, the pertinent provisions of Section 6-129, and the rules promulgated thereunder, all of which shall be deemed to be material terms of this Contract

4) agree and affirm that it is a material term of this Contract that the Vendor will award the total dollar value of the M/WBE Participation Goals to certified MBEs and/or WBEs, unless a full waiver is obtained or such goals are modified by the Agency; and

5) agree and affirm, if awarded this Contract, to make all reasonable, good faith efforts to meet the M/WBE Participation Goals, or if a partial waiver is obtained or such goals are modified by the Agency, to meet the modified Participation Goals by soliciting and obtaining the participation of certified MBE and/or WBE firms.

Signature

John Sadowsky

Date

11/2/16

Print Name

Title

PRE S



SCHEDULE B - PART III - REQUEST FOR WAIVER OF M/WBE PARTICIPATION REQUIREMENT

Contract Overview

Tax ID # _____ FMS Vendor ID # _____
 Business Name _____
 Contact Name _____ Telephone # _____ Email _____
 Type of Procurement ☐ Competitive Sealed Bids ☐ Other Bid/Response Due Date _____
 APT E-PIN # (for this procurement): _____ Contracting Agency: _____

M/WBE Participation Goals as described in bid/solicitation documents

% _____ Agency M/WBE Participation Goal
 Proposed M/WBE Participation Goal as anticipated by vendor seeking waiver
 % _____ of the total contract value anticipated in good faith by the bidder/proposer to be subcontracted for services and/or credited to an M/WBE Prime Contractor or Qualified Joint Venture.

Basis for Waiver Request: Check appropriate box & explain in detail below (attach additional pages if needed)

- ☐ Vendor does not subcontract services, and has the capacity and good faith intention to perform all such work itself with its own employees.
- ☐ Vendor subcontracts some of this type of work but at a lower % than bid/solicitation describes, and has the capacity and good faith intention to do so on this contract. (Attach subcontracting plan outlining services that the vendor will self-perform and subcontract to other vendors or consultants.)
- ☐ Vendor has other legitimate business reasons for proposing the M/WBE Participation Goal above. Explain under separate cover.

References

List 3 most recent contracts performed for NYC agencies (if any). Include information for each subcontract awarded in performance of such contracts. Add more pages if necessary.

CONTRACT NO. <u>CITYW-106F-02-09-05B</u>	AGENCY <u>CUCF</u>	DATE COMPLETED <u>JUNE 2016</u>
Total Contract Amount <u>\$3,363,000</u>	Total Amount Subcontracted <u>\$2,300,000</u>	Item of Work Subcontracted and Value of subcontract <u>AM = 199,000</u> <u>Long list of more subs</u>
Item of Work Subcontracted and Value of subcontract <u>CSWK = 390,000</u> <u>GRVLS = 315,000</u>	Item of Work Subcontracted and Value of subcontract <u>PA = 250,000</u> <u>NRAL = 422,000</u>	
CONTRACT NO. _____	AGENCY _____	DATE COMPLETED _____
Total Contract Amount \$ _____	Total Amount Subcontracted \$ _____	Item of Work Subcontracted and Value of subcontract _____
Item of Work Subcontracted and Value of subcontract _____	Item of Work Subcontracted and Value of subcontract _____	
CONTRACT NO. _____	AGENCY _____	DATE COMPLETED _____
Total Contract Amount \$ _____	Total Amount Subcontracted \$ _____	Item of Work Subcontracted and Value of subcontract _____
Item of Work Subcontracted and Value of subcontract _____	Item of Work Subcontracted and Value of subcontract _____	

List 3 most recent contracts performed for other entities. Include information for each subcontract awarded in performance of such contracts. Add more pages if necessary.

(Complete ONLY if vendor has performed fewer than 3 New York City contracts.)

TYPE OF Contract G-C ENTITY USPS DATE COMPLETED 07-2015
 Manager at entity that hired vendor (Name/Phone No./Email) Zyad Alwini (CHAMNIA) 704-236-7443
 Total Contract Amount \$3,415,000 Total Amount Subcontracted \$2,500,000
 Type of Work Subcontracted Elevator Mech, Electrical, etc

TYPE OF Contract _____ AGENCY/ENTITY _____ DATE COMPLETED _____
 Manager at agency/entity that hired vendor (Name/Phone No./Email) _____
 Total Contract Amount \$ _____ Total Amount Subcontracted \$ _____
 Item of Work Subcontracted and Value of subcontract _____ Item of Work Subcontracted and Value of subcontract _____

TYPE OF Contract _____ AGENCY/ENTITY _____ DATE COMPLETED _____
 Manager at entity that hired vendor (Name/Phone No./Email) _____
 Total Contract Amount \$ _____ Total Amount Subcontracted \$ _____
 Item of Work Subcontracted and Value of subcontract _____ Item of Work Subcontracted and Value of subcontract _____

VENDOR CERTIFICATION: I hereby affirm that the information supplied in support of this waiver request is true and correct, and that this request is made in good faith.

Signature: _____ Date: _____
 Print Name: _____ Title: _____

Shaded area below is for agency completion only

AGENCY CHIEF CONTRACTING OFFICER APPROVAL

Signature: _____ Date: _____

CITY CHIEF PROCUREMENT OFFICER APPROVAL

Signature: _____ Date: _____

Waiver Determination

Full Waiver Approved: ☐
 Waiver Denied: ☐
 Partial Waiver Approved: ☐
 Revised Participation Goal: _____ %

SAFETY QUESTIONNAIRE

The bidder must include, with its bid, all information requested on this Safety Questionnaire. Failure to provide a completed and signed Safety Questionnaire at the time of bid opening may result in disqualification of the bid as non-responsive.

1. Bidder Information:

Company Name: Knightsbridge Construction Corp

DDC Project Number: C0277ELV2

Company Size: ☒ Ten (10) employees or less
☐ Greater than ten (10) employees

Company has previously worked for DDC ☐ YES ☒ NO

2. Type(s) of Construction Work

TYPE OF WORK	LAST 3 YEARS	THIS PROJECT
General Building Construction	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Residential Building Construction	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Nonresidential Building Construction	<input type="checkbox"/>	<input type="checkbox"/>
Heavy Construction, except building	<input type="checkbox"/>	<input type="checkbox"/>
Highway and Street Construction	<input type="checkbox"/>	<input type="checkbox"/>
Heavy Construction, except highways	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Plumbing, Heating, HVAC	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Painting and Paper Hanging	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Electrical Work	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Masonry, Stonework and Plastering	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Carpentry and Floor Work	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Roofing, Siding, and Sheet Metal	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Concrete Work	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Specialty Trade Contracting	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Asbestos Abatement	<input type="checkbox"/>	<input type="checkbox"/>
Other (specify) _____	<input type="checkbox"/>	<input type="checkbox"/>

3. Experience Modification Rate:

The Experience Modification Rate (EMR) is a rating generated by the National Council of Compensation Insurance (NCCI). This rating is used to determine the contractor's premium for worker's compensation insurance. The contractor may obtain its EMR by contacting its insurance broker or the NCCI. If the contractor cannot obtain its EMR, it must submit a written explanation as to why.

The Contractor must indicate its Intrastate and Interstate EMR for the past three years. [Note: For contractors with less than three years of experience, the EMR will be considered to be 1.00].

YEAR	INTRASTATE RATE	INTERSTATE RATE
<u>2013</u>	<u>0.98</u>	<u>0.98</u>
<u>2014</u>	<u>0.98</u>	<u>0.98</u>
<u>2015</u>	<u>0.98</u>	<u>0.98</u>

If the Intrastate and/or Interstate EMR for any of the past three years is greater than 1.00, the contractor must attach, to this questionnaire, a written explanation for the rating and identify what corrective action was taken to correct the situation resulting in that rating.

4. OSHA Information:

 YES ✓ NO

Contractor has received a willful violation issued by OSHA or New York City Department of Buildings (NYCDOB) within the last three years.

 YES ✓ NO

Contractor has had an incident requiring OSHA notification within 8 hours (all work-related fatalities) or an incident requiring OSHA notification within 24 hours (all work-related impatient hospitalizations, all amputations and all losses of an eye).

The Occupational Safety and Health Act (OSHA) of 1970 requires employers with ten or more employees, on a yearly basis to complete and maintain on file the form entitled "Log of Work-related Injuries and Illnesses". This form is commonly referred to as the OSHA 300 Log (OSHA 200 Log for 2001 and earlier).

The OSHA 300 Log must be submitted for the last three years for contractors with more than ten employees.

The Contractor must indicate the total number of hours worked by its employees, as reflected in payroll records for the past three years.

The contractor must submit the Incident Rate for Lost Time Injuries (the Incident Rate) for the past three years. The Incident Rate is calculated in accordance with the formula set forth below. For each given year, the total number of incidents is the total number of non-fatal injuries and illnesses reported on the OSHA 300 Log. The 200,000 hours represents the equivalent of 100 employees working forty hours a week, fifty weeks per year.

Incident Rate =

$$\frac{\text{Total Number of Incidents} \times 200,000}{\text{Total Number of Hours Worked by Employees}}$$

YEAR	TOTAL NUMBERS OF HOURS WORKED BY EMPLOYEES	INCIDENT RATE
2013	10,000	0
2014	10,000	0
2015	10,000	0

If the contractor's Incident Rate for any of the past three years is one point higher than the Incident Rate for the type of construction it performs (listed below), the contractor must attach, to this questionnaire, a written explanation for the relatively high rate.

General Building Construction	8.5
Residential Building Construction	7.0
Nonresidential Building Construction	10.2
Heavy Construction, except building	8.7
Highway and Street Construction	9.7
Heavy Construction, except highways	8.3
Plumbing, Heating, HVAC	11.3
Painting and Paper Hanging	6.9
Electrical Work	9.5
Masonry, Stonework and Plastering	10.5
Carpentry and Floor Work	12.2
Roofing, Siding, and Sheet Metal	10.3
Concrete Work	8.6
Specialty Trade Contracting	8.6

5. Safety Performance on Previous DDC Project(s)

☐ YES ☒ NO Contractor previously audited by the DDC Office of Site Safety.
DDC Project Number(s): _____

☐ YES ☒ NO Accident on previous DDC Project(s).
DDC Project Number(s): _____

☐ YES ☒ NO Fatality or Life-altering Injury on DDC Project(s) within the last three years.
[Examples of a life-altering injury include loss of limb, loss of a sense (e.g., sight, hearing), or loss of neurological function].
DDC Project Number(s): _____

Date: 11/1/16

By: [Signature]
(Signature of Owner, Partner, Corporate Officer)

Title: Jeffrey Sadowsky, P.A.C.S.

VENDEX COMPLIANCE

(A) **Vendex Fees:** Pursuant to Procurement Policy Board Rule 2-08(f)(2), the contractor will be charged a fee for the administration of the VENDEX system, including the Vendor Name Check process, if a Vendor Name Check review is required to be conducted by the Department of Investigation. The contractor shall also be required to pay the applicable required fees for any of its subcontractors for which Vendor Name Check reviews are required. The fee(s) will be deducted from payments made to the contractor under the contract. For contracts with an estimated value of less than or equal to \$1,000,000, the fee will be \$175 per Vendor Name Check review. For contracts with an estimated value of greater than \$1,000,000, the fee will be \$350 per Vendor Name Check review.

(B) **Confirmation of Vendex Compliance:** The Bidder shall submit this Confirmation of Vendex Compliance to the Department of Design and Construction, Contracts Section, 30-30 Thomson Avenue – First Floor, Long Island City, NY 11101.

Bid Information: The Bidder shall complete the bid information set forth below.

Name of Bidder: Knightbridge Construction Corp
Bidder's Address: 33 Great Neck Rd, Great Neck, NY 11021
Bidder's Telephone Number: 516 482 2416
Bidder's Fax Number: 516 482 9105
Date of Bid Opening: 11/2/16
Project ID: CO 277 EAV 2

Vendex Compliance: To demonstrate compliance with Vendex requirements, the Bidder shall complete either Section (1) or Section (2) below, whichever applies.

- (1) **Submission of Vendex Questionnaires to MOCS:** By signing in the space provided below, the Bidder certifies that as of the date specified below, the Bidder has submitted Vendex Questionnaires to the Mayor's Office of Contract Services, Attn: VENDEX, 253 Broadway, 9th Floor, New York, New York 10007.

Date of Submission: 7/29/16

By: [Signature]
(Signature of Partner or corporate officer)

Print Name: Jeffrey Sadowsky, Pres

- (2) **Submission of Certification of No Change to DDC:** By signing in the space provided below, the Bidder certifies that it has read the instructions in a "Vendor's Guide to Vendex" and that such instructions do not require the Bidder to submit Vendex Questionnaires. The Bidder has completed **TWO ORIGINALS** of the Certification of No Change set forth on the next page of this Bid Booklet.

By: _____
(Signature of Partner or corporate officer)

Print Name: _____

DIRECTIONS: Please execute two originals (both with original signature).
Please forward directly to the agency (not M.O.C.S.).

Certificate of No Change Form



- Please submit two completed forms. Copies will not be accepted.
- Please send both copies to the agency that requested it, unless you are advised to send it directly to the Mayor's Office of Contract Services (MOCS).
- A materially false statement willfully or fraudulently made in connection with this certification, and/or the failure to conduct appropriate due diligence in verifying the information that is the subject of this certification, may result in rendering the submitting entity non-responsible for the purpose of contract award.
- A materially false statement willfully or fraudulently made in connection with this certification may subject the person making the false statement to criminal charges

I, Jeffrey Sadowsky, being duly sworn, state that I have read
Enter Your Name

and understand all the items contained in the vendor questionnaire and any submission of change as identified on page one of this form and certify that as of this date, these items have not changed. I further certify that, to the best of my knowledge, information and belief, those answers are full, complete, and accurate; and that, to the best of my knowledge, information, and belief, those answers continue to be full, complete, and accurate.

In addition, I further certify on behalf of the submitting vendor that the information contained in the principal questionnaire(s) and any submission of change identified on page two of this form have not changed and have been verified and continue, to the best of my knowledge, to be full, complete and accurate.

I understand that the City of New York will rely on the information supplied in this certification as additional inducement to enter into a contract with the submitting entity.

Vendor Questionnaire *This section is required.*

This refers to the vendor questionnaire(s) submitted for the vendor doing business with the City.

Name of Submitting Entity: Knightsbridge Construction Corp.

Vendor's Address: 33 Great Neck Rd, Great Neck, NY 11021

Vendor's EIN or TIN: 11-2857837 Requesting Agency: NYC DDC

Are you submitting this Certification as a parent? (Please circle one) Yes ☐ No ☒

Signature date on the last full vendor questionnaire signed for the submitting vendor: 7/29/16

Signature date on change submission for the submitting vendor: NA

Principal Questionnaire

This section refers to the most recent principal questionnaire submissions.



	Principal Name	Date of signature on last full Principal Questionnaire	Date(s) of signature on submission of change
1	Jeffrey Sadowsky	2/29/16	NA
2			
3			
4			
5			
6			

☐ Check if additional changes were submitted and attach a document with the date of additional submissions.

Certification This section is required.

This form must be signed and notarized. Please complete this twice. Copies will not be accepted.

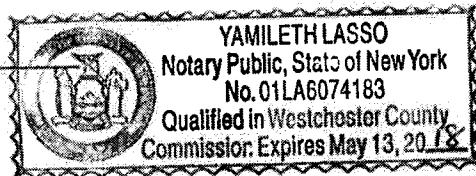
Certified By:

Name (Print) Jeffrey Sadowsky
Title President
Name of Submitting Entity Knightsbridge Construction Corp.
Signature Jeffrey Sadowsky Date 11/12/16

Notarized By:

Yamileth Lasso Westchester
Notary Public County License Issued License Number

Sworn to before me on: 11-12-2016
Date



**BIDDER'S CERTIFICATION OF COMPLIANCE WITH
IRAN DIVESTMENT ACT**

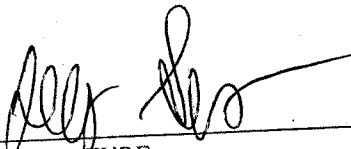
Pursuant to General Municipal Law §103-g, which generally prohibits the City from entering into contracts with persons engaged in investment activities in the energy sector of Iran, the bidder/proposer submits the following certification:

[Please Check One]

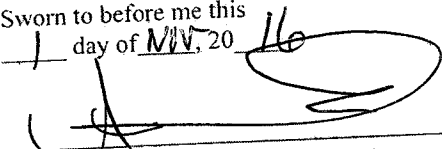
BIDDER'S CERTIFICATION

- ☒ By submission of this bid or proposal, each bidder/proposer and each person signing on behalf of any bidder/proposer certifies, and in the case of a joint bid each party thereto certifies as to its own organization, under penalty of perjury, that to the best of its knowledge and belief, that each bidder/proposer is not on the list created pursuant to paragraph (b) of subdivision 3 of Section 165-a of the State Finance Law.
- ☐ I am unable to certify that my name and the name of the bidder/proposer does not appear on the list created pursuant to paragraph (b) of subdivision 3 of Section 165-a of the State Finance Law. I have attached a signed statement setting forth in detail why I cannot so certify.

Dated: Grant Wick, New York
Nov-1, 2016


SIGNATURE
Jeffrey Sadowsky
PRINTED NAME
PRAS
TITLE

Sworn to before me this
1 day of Nov, 2016


Notary Public

Dated: 11-1-2016

SAMIRA ASSIL
Notary Public - State of New York
NO. 01AS6297164
Qualified in Nassau County
My Commission Expires Feb 18, 2018

Gregg Bishop
Commissioner

216CY449

November 22, 2016

Mr. Jeffrey Sadowsky
Knightsbridge Construction Corp.
33 Great Neck Road
Long Island City, NY 11101

Re: **New York City Department of Design and Construction Contract (DDC);**
Pin No. 8502016CT0015C; Court square courthouse elevator modernization
and upgrades; Borough of Queens; Contract Value: \$2,711,000.00; **Continued**
Certificate of Approval.

Dear Mr. Sadowsky:

Please be advised that **Knightsbridge Construction Corp.** has already received notice of its approval for the three (3) year period indicated in the Department of Small Business Services/Division of Labor Services (DLS) Certificate of Approval dated September 28, 2016 for DLS File No. 216CY393.

As your organization continues to meet the equal employment opportunity requirements of the City of New York, DLS approves the awarding of the above-referenced contract. This approval does not extend the initial three (3) year approval (**September 28, 2016 – September 27, 2019**) referred to above.

If you have any questions regarding this letter, please call **Ms. Judy Mitchell-Albert**, Contract Reviewer, at (212) 513-9272 or e-mail her at jmitchell-albert@sbs.nyc.gov.

Very truly yours,

Helen Wilson (R)

Helen Wilson
Assistant Commissioner
Division of Labor Services

cc: Charlette Hamamgian (DDC)
Judy Mitchell-Albert
FILE

THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF PUBLIC BUILDINGS

September 19, 2016

ADDENDUM No. # 1

FOR FURNISHING ALL LABOR AND MATERIAL NECESSARY AND REQUIRED FOR:

CO277ELV2

Court Square Courthouse Elevator Modernization and Upgrades

This addendum is issued for the purpose of amending the requirements of the Bid and Contract Documents and is hereby made a part of said Bid and Contract Documents to the same extent as though it were originally included therein.

The bidder is advised that the items listed below apply to the project:

1. **Revisions to the Drawings:**
See Attachment A.

THIS ADDENDUM MUST BE SIGNED BY ALL BIDDERS AND ATTACHED TO THEIR BIDS.

If additional information is required, please contact the Department of Design and Construction, Contract Section at (718) 391-3170, (718) 391-1016, or by fax at (718) 391-2615.


Rebecca Clough
Assistant Commissioner
Courts/ Correctional Institutions

Knightbridge Construction Corp.
Name of Bidder

By: 

THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF PUBLIC BUILDINGS

September 21, 2016

ADDENDUM No. # 2

FOR FURNISHING ALL LABOR AND MATERIAL NECESSARY AND REQUIRED FOR:

CO277ELV2

COURT SQUARE COURTHOUSE ELEVATOR MODERNIZATION AND UPGRADES

This addendum is issued for the purpose of amending the requirements of the Bid and Contract Documents and is hereby made a part of said Bid and Contract Documents to the same extent as though it were originally included therein.

The bidder is advised that the items listed below apply to the project:

1. Bid Opening Date changed to October 26, 2016, 2PM
2. Questions and Answers
See Attachment A.

THIS ADDENDUM MUST BE SIGNED BY ALL BIDDERS AND ATTACHED TO THEIR BIDS.

If additional information is required, please contact the Department of Design and Construction, Contract Section at (718) 391-1016, or by fax at (718) 391-2615.


Rebecca Clough
Assistant Commissioner
Courts/ Correctional Institutions

Knightbridge Construction Corp.
Name of Bidder

By: 

THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF PUBLIC BUILDINGS

September 28, 2016

ADDENDUM No. # 3

FOR FURNISHING ALL LABOR AND MATERIAL NECESSARY AND REQUIRED FOR:

CO277ELV2

COURT SQUARE COURTHOUSE ELEVATOR MODERNIZATION AND UPGRADES

This addendum is issued for the purpose of amending the requirements of the Bid and Contract Documents and is hereby made a part of said Bid and Contract Documents to the same extent as though it were originally included therein.

The bidder is advised that the items listed below apply to the project:

1. Bid Opening Date changed to November 2, 2016, 2PM

THIS ADDENDUM MUST BE SIGNED BY ALL BIDDERS AND ATTACHED TO THEIR BIDS.

If additional information is required, please contact the Department of Design and Construction, Contract Section at (718) 391-1016, or by fax at (718) 391-2615.


Rebecca Clough
Assistant Commissioner
Courts/ Correctional Institutions

Knightsbridge Construction Corp.
Name of Bidder

By: 

NYC AGENCY RENOVATION & REHAB CITY OWNED
BUILDINGS/STRUCTURES PLA

Project Labor Agreement -- Letter of Assent

Dear:

The undersigned party confirms that it agrees to be a party to and be bound by the New York Agency, Project Labor Agreement as such Agreement may, from time to time, be amended by the parties or interpreted pursuant to its terms. The terms of the Project Labor Agreement, its Schedules, Addenda and Exhibits are hereby incorporated by reference herein.

The undersigned, as a Contractor or Subcontractor (hereinafter Contractor) on the Project known as Elevator Mod and located at Court Square Court House (hereinafter PROJECT), for and in consideration of the award to it of a contract to perform work on said PROJECT, and in further consideration of the mutual promises made in the Project Labor Agreement, a copy of which was received and is acknowledged, hereby:

- (1) Accepts and agrees to be bound by the terms and conditions of the Agreement, together with any and all schedules; amendments and supplements now existing or which are later made thereto;
- (2) Agrees to be bound by the legally established collective bargaining agreements; local trust agreements for employee benefit funds; and trust documents for joint apprentice programs as well as apprentice program rules and procedures but only to the extent of Program Work and as required by the PLA.
- (3) Authorizes the parties to such local trust agreements to appoint trustees and successor trustees to administer the trust funds and hereby ratifies and accepts the trustees so appointed as if made by the Contractor but only to the extent of Program Work as required by the PLA.
- (4) Certifies that it has no commitments or agreements that would preclude its full and complete compliance with the terms and conditions of said Agreement. The Contractor agrees to employ labor that can work in harmony with all other labor on the Project and shall require labor harmony from every lower tier subcontractor it has engaged or may engage to work on the Project. Labor harmony disputes/issues shall be subject to the Labor Management Committee provisions.
- (5) Agrees to secure from any Contractor(s) (as defined in said Agreement) which is or becomes a Subcontractor (of any tier), to it, a duly executed Agreement to be Bound in from identical to this document.

Provide description of the Work, identify craft jurisdiction(s) and all contract numbers below:

General Construction (All Work)
Contract # C0277F1V2

NYC AGENCY RENOVATION & REHAB CITY OWNED
BUILDINGS/STRUCTURES PLA

Dated: 5/5/17

Knightsbridge Construction Corp
(Name of ~~CM~~ GC; Contractor or
Higher Level Subcontractor)

Knightsbridge Construction Corp
(Name of Contractor or subcontractor)

Jeff Sadowsky
(Authorized Officer & Title) Jeffrey Sadowsky, Pres.

33 Great Neck Rd, Great Neck, NY 11021
(Address)

516-482-2416 (516-482-9105)
(Phone) (Fax)

Contractor's State License
NA

Sworn to before me this

5th day of May, 2017,
Aimee Jaramillo
Notary Public

AIMEE JARAMILLO
Notary Public - State of New York
No. 01JA6105288
Qualified in Queens County
My Commission Expires Feb. 09, 2020

BIDDER'S IDENTIFICATION OF SUBCONTRACTORS

NOTICE TO BIDDERS

SUBMISSION: The Bidder must, at the time of the bid, submit the completed form on the next page ("BIDDER'S IDENTIFICATION OF SUBCONTRACTORS"). This form must be submitted in a separate, sealed envelope (BID ENVELOPE #2). Failure to do so will result in the disqualification of the bid as non-responsive.

Please be advised that pursuant to GML § 101(5) the Bidder is required to submit with its bid the names of subcontractors it intends to use to perform the following work on this contract, as well as the agreed-upon amount to be paid to each:

- plumbing and gas fitting;
- steam heating, hot water heating, ventilating and air conditioning apparatus; and
- electric wiring and standard illuminating fixtures.

NOTE: This project may not involve all of the above listed subcontractors. Please see the form on the next page which indicates the subcontractors required for this Project.

All listed subcontractors must be used to perform the work identified on this form for the amount listed. The listed subcontractors are not alternatives to each other. The list of subcontractors is to be submitted in a separate sealed envelope by completing the form 'Bidders Identification of Subcontractors' for any subcontractors intended to be used in any of the three trades listed above. If bidder intends to use its own forces for any of the above listed work, bidder should complete this form using its own name.

Failure to submit the completed form on the next page ("Bidder's Identification of Subcontractors") that includes the names of subcontractors and the agreed upon amounts to be paid to such subcontractors will render the bid non-responsive.

PLEASE NOTE: for any contract that is subject to M/WBE Participation Goals under Local Law 129, if the bidder's intention to use its own forces to do any of the above-referenced work would result in Bidder's failure to attain the Target Subcontracting Percentage identified in Schedule B (Subcontractor Utilization Plan), the bid will be non-responsive unless the bidder requests and obtains a Waiver of Target Subcontracting Percentage (Schedule B, Part III) in advance of bid submission. Failure to submit the completed 'BIDDERS IDENTIFICATION OF SUBCONTRACTORS' form that includes the names of subcontractors and the agreed upon amounts to be paid to such subcontractors will render the bid non-responsive.

After the low bid is announced, the sealed list submitted by the low bidder will be opened and the names of the subcontractors will be announced. The sealed lists of subcontractors submitted by all other bidders shall be maintained by the Agency unopened unless such bidder shall become the low bidder (e.g., the initial low bidder is found non-responsive). All unopened lists of subcontractors shall be returned to the bidders unopened after contract award, unless the bidder has given the agency permission to shred the form.

After bid submission, any change of subcontractor or agreed-upon amount to be paid to each shall require approval of the Agency upon a showing of a legitimate construction need which shall include, but not be limited to, a change in project specifications, a change in project material costs, a change to subcontractor status as determined pursuant to §222 (2)(e) of the Labor Law, or if the subcontractor has become otherwise unwilling, unable or unavailable to perform the subcontract.

NOTICE TO BIDDERS:

- **PROJECT LABOR AGREEMENT:** This contract is subject to a Project Labor Agreement ("PLA") entered into between the City and the Building and Construction Trades Council of Greater New York ("BCTC") affiliated Local Unions. By submitting a bid, the Contractor agrees that the PLA is binding on the Contractor and all subcontractors of all tiers. The bidder to be awarded the contract will be required to execute a "Letter of Assent" prior to award.

The Bidder is advised to review the following: (1) Notice regarding the PLA, (2) the PLA, and (3) the Letter of Assent, all of which are set forth at the beginning of Volume 2 of the Contract Documents.

- **SINGLE CONTRACT:** As stated above, this contract is subject to a PLA. The requirements of the Wicks Law for separate prime contractors DO NOT APPLY to any project that is covered by a PLA. Accordingly, the requirements of the Wicks Law for separate prime contractors do not apply to this Project. The Project consists of a single contract, the Contract for General Construction Work.

The Bidder is advised to review the Notice set forth at the beginning of Volume 2 of the Contract Documents. The Notice specifies revisions to the Contract Documents to provide that the Project consists of a single contract and to delete any and all references to separate prime contractors.

- **COMPLIANCE WITH HIRENYC AND REPORTING REQUIREMENTS:** The Hiring and Employment Rider located in Volume 2 of the Contract Documents shall apply to contracts valued at \$1 million or more for all goods, services and construction except human services contracts that are subject to the Public Assistance Hiring Commitment Rider. The Rider describes the Hire NYC process and obligations, including reporting requirements throughout the life of the contract. The Hire NYC process requires contractors to enroll with the Hire NYC system within thirty days after the registration of the contract subject to this solicitation, to provide information regarding all entry to mid-level job opportunities arising from this contract and located in New York City, and to agree to interview qualified candidates from HireNYC for those opportunities. The Rider also includes reporting requirements unrelated to HireNYC.

SPECIAL NOTICE TO BIDDERS

The New York City Department of Small Business Services (SBS), in conjunction with the New York Business Development Corporation (NYBDC), have established a NYC Construction Loan pilot program to provide prime contractors and subcontractors financing for mobilization costs on certain City construction projects.

Under this initiative, loans are available for early stage mobilization needs such as insurance, labor, supplies and equipment. Bidders are strongly encouraged to visit "Growing Your Business" at www.nyc.gov/nycbusiness to learn more about the loan or contact constructionloan@sbs.nyc.gov / (212) 513-6444 to obtain details and to determine preliminary eligibility.

A successful loan applicant will be required to make an assignment of its contract (or subcontract) payments to the lender NYBDC until the loan is repaid. If the loan is to a subcontractor, a prime contractor must honor the terms of such an assignment.

A prime contractor may not discriminate against a subcontractor or potential subcontractor by reason of the subcontractor's participation, or nonparticipation, in the NYC Construction Loan program.

PRE BID QUESTIONS (PBQs):

- Please be advised that PBQs should be submitted to the Agency Contact Person at least five (5) business days (by 5:00 P.M. EST) prior to the bid opening date as indicated in ATTACHMENT 1 – BID INFORMATION, page 22, VOLUME 1 of 3 of this BID PACKAGE.

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**BID BOOKLET
PART A**

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CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF PUBLIC BUILDINGS

BID BOOKLET

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**CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF PUBLIC BUILDINGS**

SPECIAL NOTICE TO BIDDERS

BID SUBMISSION REQUIREMENTS

**THE BID SHALL CONSIST OF TWO (2) SEPARATE, SEALED
ENVELOPES. THE DOCUMENTS THAT MUST BE COMPLETED AND
INCLUDED IN EACH SEPARATE ENVELOPE ARE LISTED BELOW.**

BID ENVELOPE #1: Bid Envelope #1 shall contain the following items:

- Bid Form, including Affirmation
- Bid Security (if required, see page 22)
- Schedule B: M/WBE Utilization Plan (if participation goals have been established)

BID ENVELOPE #2: Bid Envelope #2 shall contain **ONLY** the following item:

- Bidder's Identification of Subcontractors (see pages 16 & 17)

**FAILURE TO SUBMIT THE FOUR ITEMS LISTED ABOVE
WILL RESULT IN THE DISQUALIFICATION OF THE BID**

BID ENVELOPE #1: In addition to the items listed above, Bid Envelope #1 shall also contain the following items: **DO NOT** Include the items listed below in Bid Envelope #2.

- Bid Breakdown (if required, see page 21)
- Safety Questionnaire
- Construction Employment Report (if bid is \$1,000,000 or more)
- Contract Certificate (if bid is less than \$1,000,000)
- Confirmation of Vendex Compliance
- Bidder's Certification of Compliance with Iran Divestment Act
- Special Experience Requirements Qualification Form (if required, see pages 3, 4)
- Any Addenda issued prior to the receipt of bids

**FAILURE TO SUBMIT THE EIGHT ITEMS LISTED ABOVE
MAY RESULT IN THE DISQUALIFICATION OF THE BID.**

- NOTES:**
- (1) All of the above referred to blank forms to be completed and submitted with the bid are included in the BID BOOKLET.
 - (2) If the bidder has any questions or requires additional information, please contact the Department of Design and Construction by phone (718-391-2601) or by fax (718-391-2615).
 - (3) **VENDEX QUESTIONNAIRES:** Vendex Questionnaires, as well as detailed instructions, may be obtained at www.nyc.gov/vendex. The bidder may also obtain Vendex forms and instructions by contacting the Agency Chief Contracting Officer or the contact person for this contract.
 - (4) **SPECIAL EXPERIENCE REQUIREMENTS:** The Bidder is advised that Special Experience Requirements may apply to this contract. Such requirements are set forth on pages 3 and 4 of this Bid Booklet.
 - (5) **SPECIAL EXPERIENCE REQUIREMENTS FOR ASBESTOS:** The Bidder is advised that this contract contains strict requirements regarding the prior experience and licensing of the subcontractor who will perform any required asbestos abatement work. These special experience requirements are set forth in the section of the specifications which describes any required asbestos abatement work.

Special Notice to Bidders – Proprietary Items

- A. General: A proprietary item required for the Project is specified below. The contractor is required to provide and install such proprietary item. The Contractor must provide the specified item from the designated manufacturer. Substitutions are not permissible and will not be approved. More detailed information regarding the item is set forth in the Specifications. Such information includes item description, as well as requirements for installation and related materials.
- B. Payment: For the required proprietary item, an allowance amount is indicated. The allowance provides a stipulated amount to reimburse the Contractor for the purchase of the proprietary item from the designated manufacturer. Payment from the allowance shall be limited to the purchase price of the specified proprietary item and shall exclude any costs above and beyond the purchase price. Payment from the allowance shall not include any of the following costs with respect to the specified proprietary item: (1) any mark-up for the Contractor's overhead and profit, (2) any costs for transportation, including delivery, shipping or special handling costs, (3) any costs for installation, and (4) any costs for related materials. Payment for the specified proprietary item shall be based on the invoice actually provided by the manufacturer.
- C. Bid Form: A total allowance amount for the purchase of all required proprietary items is set forth on the Bid Form. In preparing the lump sum portion of its bid, the Contractor shall:
- (1) Exclude from its bid any costs for the purchase of the proprietary items, and
 - (2) Include in its bid any costs above and beyond the purchase price, including without limitation, costs for transportation, delivery, installation, related materials and overhead.
- D. Required Proprietary Item(s):

CONTRACT NO. : 1

- | | |
|------------------------|----------------------------------|
| 1. Proprietary Item: | Warden Station |
| Specification Section: | 283100 |
| Manufacturer: | <i>Gamewell Flex Alert</i> |
| Allowance Amount: | Not to Exceed \$ 560 |
| | |
| 2. Proprietary Item: | Smoke detector, elevator recall |
| Specification Section: | 283100 |
| Manufacturer: | <i>Gamewell Flex Alert</i> |
| Allowance Amount: | Not to Exceed \$ 320 x 3 = \$960 |

3. Proprietary Item: Smoke detector
Specification Section: 283100
Manufacturer: *Gamewell Flex Alert*
Allowance Amount: Not to Exceed: $\$320 \times 2 = \640
4. Proprietary Item: Combination speaker/strobe
Specification Section: 283100
Manufacturer: Gamewell Flex Alert
Allowance Amount: Not to Exceed: \$425
5. Proprietary Item: Relay
Specification Section: 283100
Manufacturer: Gamewell Flex Alert
Allowance Amount: Not to Exceed: \$ 380

SPECIAL EXPERIENCE REQUIREMENTS

Special Experience Requirements apply as indicated below.

Bidder:	General Construction	<input checked="" type="checkbox"/> X	YES	<input type="checkbox"/> NO
Specific Areas of Work:	General Construction	<input checked="" type="checkbox"/> X	YES	<input type="checkbox"/> NO

(A) **EXPERIENCE REQUIREMENTS FOR THE BIDDER:** The special experience requirements set forth below apply to the bidder indicated above. Compliance with such special experience requirements will be determined solely by the City prior to an award of contract. Failure to comply with the special experience requirements will result in the rejection of the bid as non-responsive.

- The bidder must, within the last five (5) consecutive years prior to the bid opening, have successfully completed in a timely fashion at least three (3) projects similar in scope and type to the required work, based on architectural style, construction method and materials and age of building for this particular project. One such prior project of the three must have involved a landmarked building, as officially designated by the City, State or federal government.

(B) **QUALIFICATION FORM:** For each project submitted to demonstrate compliance with the special experience requirements, the bidder must complete the Qualification Form included in the Bid Booklet. The City will only evaluate a project if the following criteria are met: (1) the project is described on the Qualification Form, and (2) all information on the Qualification Form is provided. The City will not evaluate any project which does not comply with the criteria set forth herein, including any project which is referred to only on the resume of an individual.

(C) **CONDITIONS:** The City may, in determining compliance with the special experience requirements set forth above, consider prior projects completed by principal(s) or other employees of the bidder while affiliated with another entity, subject to the conditions set forth below.

- Any principal or other employee on whose prior experience the bidder is relying to demonstrate compliance with this special experience requirement must have held the following: (a) a significant management role in the prior entity with which he/she was affiliated, and (b) a significant management role in the entity submitting the bid for a period of six months or from the inception of the bidding entity. If the bidder is relying on the prior experience of a principal or employee, it must submit documentation confirming the position held by such principal or employee in the prior entity, as well as in the bidding entity.
- The bidder may not rely on the experience of its principals or other employees to demonstrate compliance with any other requirements, including without limitation, financial requirements or requirements for a specified minimum amount of annual gross revenues.

(D) **JOINT VENTURES:** In the event the bidder is a joint venture, at least one firm in the joint venture must meet the above described experience requirements.

(E) **EXPERIENCE REQUIREMENTS FOR SPECIFIC AREAS OF WORK:** The special experience requirements set forth below apply to the contractor or subcontractor that will perform specific areas of work. Compliance with such experience requirements will be evaluated after an award of contract. Within two (2) weeks of such award, the contractor will be required to submit the qualifications of the contractor or subcontractor that will perform these specific areas of work. If the bidder intends to perform these specific areas of work with its own forces, it must demonstrate compliance with the special experience requirements. If the bidder intends to subcontract these specific areas of work, its proposed subcontractor(s) must demonstrate compliance with the special experience requirements. Once approved, no substitution will be permitted, unless the qualifications of the proposed replacement have been approved in writing in advance by the City. The bidder is advised to carefully review these special experience requirements prior to submitting its bid, as such experience requirements will be strictly enforced.

- (1) Special experience requirements apply to the contractor or subcontractor that will perform specific areas of work specified in the section(s) set forth below.

General Construction

- Section 14 2123: Electric Traction Passenger Elevators

- (2) Special experience requirements applicable to the contractor or subcontractor that will perform specific areas of work are summarized below. Such experience requirements are set forth in full in the Addendum to the General Conditions.

- The contractor or subcontractor performing the work of this section must, within the last five (5) consecutive years prior to the bid opening, have successfully completed in a timely fashion at least three (3) projects similar in scope and type to the required work, based on architectural style, construction method and materials and age of building for this particular project. One such prior project of the three must have involved a landmarked building, as officially designated by the City, State or federal government.

- (3) For each project submitted to demonstrate compliance with the special experience requirements for specific areas of work, the contractor or proposed subcontractor will be required to complete the Qualification Form included in the Bid Booklet. The City will only evaluate a project if the following criteria are met: (1) the project is described on the Qualification Form, and (2) all information on the Qualification Form is provided. The City will not evaluate any project which does not comply with the criteria set forth herein, including any project which is referred to only on the resume of an individual.

Qualification Form

Project ID: CO277ELV2

List previous projects completed to meet the special experience requirements for this contract. Please photocopy this form for submission of all required projects.

Name of Contractor: _____

Name of Project: _____

Location of Project: _____

Owner or Owner's representative (Architect or Engineer) who is familiar with the work performed:

Name: _____

Title: _____ Phone Number: _____

Brief description of work completed: _____

Was the work performed as a prime or a subcontractor: _____

Amount of Contract: _____

Date of Completion: _____

Name of Contractor: _____

Name of Project: _____

Location of Project: _____

Owner or Owner's representative (Architect or Engineer) who is familiar with the work performed:

Name: _____

Title: _____ Phone Number: _____

Brief description of work completed: _____

Was the work performed as a prime or a subcontractor: _____

Amount of Contract: _____

Date of Completion: _____

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MWBE PROGRAM

M/WBE UTILIZATION PLAN

M/WBE Program Requirements: The requirements for the M/WBE Program are set forth on the following pages of this Bid Booklet, in the section entitled "Notice to All Prospective Contractors".

Schedule B: M/WBE Utilization Plan: Schedule B: M/WBE Utilization Plan for this Contract is set forth in this Bid Booklet on the pages following the section entitled "Notice to All Prospective Contractors". The M/WBE Utilization Plan (Part I) indicates whether Participation Goals have been established for this Contract. If Participation Goals have been established for this Contract, the bidder must submit an M/WBE Utilization Plan (Part II) with its bid.

Waiver: The bidder may seek a full or partial pre-award waiver of the Participation Goals in accordance with the "Notice to All Prospective Contractors" (See Part A, Section 10). The bidder's request for a waiver must be submitted at least seven (7) calendar days prior to the bid date. Waiver requests submitted after the deadline will not be considered. The form for requesting a waiver of the Participation Goals is set forth in the M/WBE Utilization Plan (Part III).

Rejection of the Bid: The bidder must complete Schedule B: M/WBE Utilization Plan (Part II) set forth in this Bid Booklet on the pages following the section entitled "Notice to All Prospective Contractors". A Schedule B submitted by the bidder which does not include the Vendor Certification and Required Affirmations (See Section V of Part II) will be deemed to be non-responsive, unless a full waiver of the Participation Goals is granted (Schedule B, Part III). In the event that the City determines that the bidder has submitted a Schedule B where the Vendor Certification and Required Affirmations are completed but other aspects of the Schedule B are not complete, or contain a copy or computation error that is at odds with the Vendor Certification and Required Affirmations, the bidder will be notified by the Agency and will be given four (4) calendar days from receipt of notification to cure the specified deficiencies and return a completed Schedule B to the Agency. Failure to do so will result in a determination that the Bid is non-responsive.

Receipt of notification is defined as the date notice is emailed or faxed (if the bidder has provided an email address or fax number), or no later than five (5) days from the date of mailing or upon delivery, if delivered.

Impact on LBE Requirements: If Participation Goals have been established for the participation of M/WBEs, the contractor is not required to comply with the Locally Based Enterprise Program ("LBE"). The LBE Program is set forth in Article 67 of the Contract.

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NOTICE TO ALL PROSPECTIVE CONTRACTORS

PARTICIPATION BY MINORITY-OWNED AND WOMEN-OWNED BUSINESS ENTERPRISES IN CITY PROCUREMENT

ARTICLE I. M/WBE PROGRAM

Local Law No. 129 of 2005 added and Local Law 1 of 2013 amended Section 6-129 of the Administrative Code of the City of New York (hereinafter "Section 6-129"). Section 6-129 establishes the program for participation in City procurement ("M/WBE Program") by minority-owned business enterprises ("MBEs") and women-owned business enterprises ("WBEs"), certified in accordance with Section 1304 of the New York City Charter. As stated in Section 6-129, the intent of the program is to address the impact of discrimination on the City's procurement process, and to promote the public interest in avoiding fraud and favoritism in the procurement process, increasing competition for City business, and lowering contract costs. The contract provisions contained herein are pursuant to Section 6-129, and the rules of the Department of Small Business Services ("DSBS") promulgated thereunder.

If this Contract is subject to the M/WBE Program established by Section 6-129, the specific requirements of MBE and/or WBE participation for this Contract are set forth in Schedule B of the Contract (entitled the "M/WBE Utilization Plan"), and are detailed below. The Contractor must comply with all applicable MBE and WBE requirements for this Contract.

All provisions of Section 6-129 are hereby incorporated in the Contract by reference and all terms used herein that are not defined herein shall have the meanings given such terms in Section 6-129. Article I, Part A, below, sets forth provisions related to the participation goals for construction, standard and professional services contracts. Article I, Part B, below, sets forth miscellaneous provisions related to the M/WBE Program.

PART A

PARTICIPATION GOALS FOR CONSTRUCTION, STANDARD AND PROFESSIONAL SERVICES CONTRACTS OR TASK ORDERS

1. The **MBE and/or WBE Participation Goals** established for this Contract or Task Orders issued pursuant to this Contract, ("Participation Goals"), as applicable, are set forth on Schedule B, Part I to this Contract (see Page 1, line 1 Total Participation Goals) or will be set forth on Schedule B, Part I to Task Orders issued pursuant to this Contract, as applicable.

The **Participation Goals** represent a percentage of the total dollar value of the Contract or Task Order, as applicable, that may be achieved by awarding subcontracts to firms certified with New York City Department of Small Business Services as MBEs and/or WBEs, and/or by crediting the participation of prime contractors and/or qualified joint ventures as provided in Section 3 below, unless the goals have been waived or modified by Agency in accordance with Section 6-129 and Part A, Sections 10 and 11 below, respectively.

2. If **Participation Goals** have been established for this Contract or Task Orders issued pursuant to this Contract, Contractor agrees or shall agree as a material term of the Contract that Contractor shall be subject to the **Participation Goals**, unless the goals are waived or modified by Agency in accordance with Section 6-129 and Part A, Sections 10 and 11 below, respectively.

3. If **Participation Goals** have been established for this Contract or Task Order issued pursuant to this Contract, a Contractor that is an MBE and/or WBE shall be permitted to count its own participation toward fulfillment of the relevant **Participation Goal**, provided that in accordance with Section 6-129 the value of Contractor's participation shall be determined by subtracting from the total value of the Contract or Task Order, as applicable, any amounts that the Contractor pays to direct subcontractors (as defined in Section 6-129(c)(13)), and provided further that a Contractor that is certified as both an MBE and a WBE may count its own participation either toward the goal for MBEs or the goal for WBEs, but not both.

A Contractor that is a qualified joint venture (as defined in Section 6-129(c)(30)) shall be permitted to count a percentage of its own participation toward fulfillment of the relevant **Participation Goal**. In accordance with Section 6-129, the value of Contractor's participation shall be determined by subtracting from the total value of the Contract or Task Order, as applicable, any amounts that Contractor pays to direct subcontractors, and then multiplying the remainder by the percentage to be applied to total profit to

determine the amount to which an MBE or WBE is entitled pursuant to the joint venture agreement, provided that where a participant in a joint venture is certified as both an MBE and a WBE, such amount shall be counted either toward the goal for MBEs or the goal for WBEs, but not both.

4. A. If **Participation Goals** have been established for this Contract, a prospective contractor shall be required to submit with its bid or proposal, as applicable, a completed Schedule B, M/WBE Utilization Plan, Part II (see Pages 2-4) indicating: (a) whether the contractor is an MBE or WBE, or qualified joint venture; (b) the percentage of work it intends to award to direct subcontractors; and (c) in cases where the contractor intends to award direct subcontracts, a description of the type and dollar value of work designated for participation by MBEs and/or WBEs, and the time frames in which such work is scheduled to begin and end. In the event that this M/WBE Utilization Plan indicates that the bidder or proposer, as applicable, does not intend to meet the **Participation Goals**, the bid or proposal, as applicable, shall be deemed non-responsive, unless Agency has granted the bidder or proposer, as applicable, a pre-award waiver of the Participation Goals in accordance with Section 6-129 and Part A, Section 10 below.

B. (i) If this Contract is for a master services agreement or other requirements type contract that will result in the issuance of Task Orders that will be individually registered ("Master Services Agreement") and is subject to M/WBE **Participation Goals**, a prospective contractor shall be required to submit with its bid or proposal, as applicable, a completed Schedule B, M/WBE Participation Requirements for Master Services Agreements That Will Require Individually Registered Task Orders, Part II (page 2) indicating the prospective contractor's certification and required affirmations to make all reasonable good faith efforts to meet participation goals established on each individual Task Order issued pursuant to this Contract, or if a partial waiver is obtained or such goals are modified by the Agency, to meet the modified **Participation Goals** by soliciting and obtaining the participation of certified MBE and/or WBE firms. In the event that the Schedule B indicates that the bidder or proposer, as applicable, does not intend to meet the **Participation Goals** that may be established on Task Orders issued pursuant to this Contract, the bid or proposal, as applicable, shall be deemed non-responsive.

(ii) **Participation Goals** on a Master Services Agreement will be established for individual Task Orders issued after the Master Services Agreement is awarded. If **Participation Goals** have been established on a Task Order, a contractor shall be required to submit a Schedule B – M/WBE Utilization Plan For Independently Registered Task Orders That Are Issued Pursuant to Master Services Agreements, Part II (see Pages 2-4) indicating: (a) whether the contractor is an MBE or WBE, or qualified joint venture; (b) the percentage of work it intends to award to direct subcontractors; and (c) in cases where the contractor intends to award direct subcontracts, a description of the type and dollar value of work designated for participation by MBEs and/or WBEs, and the time frames in which such work is scheduled to begin and end. The contractor must engage in good faith efforts to meet the **Participation Goals** as established for the Task Order unless Agency has granted the contractor a pre-award waiver of the Participation Goals in accordance with Section 6-129 and Part A, Section 10 below.

C. THE BIDDER/PROPOSER MUST COMPLETE THE SCHEDULE B INCLUDED HEREIN (SCHEDULE B, PART II). A SCHEDULE B SUBMITTED BY THE BIDDER/PROPOSER WHICH DOES NOT INCLUDE THE VENDOR CERTIFICATION AND REQUIRED AFFIRMATIONS (SEE SECTION V OF PART II) WILL BE DEEMED TO BE NON-RESPONSIVE, UNLESS A FULL WAIVER OF THE PARTICIPATION GOALS IS GRANTED (SCHEDULE B, PART III). IN THE EVENT THAT THE CITY DETERMINES THAT THE BIDDER/PROPOSER HAS SUBMITTED A SCHEDULE B WHERE THE VENDOR CERTIFICATION AND REQUIRED AFFIRMATIONS ARE COMPLETED BUT OTHER ASPECTS OF THE SCHEDULE B ARE NOT COMPLETE, OR CONTAIN A COPY OR COMPUTATION ERROR THAT IS AT ODDS WITH THE VENDOR CERTIFICATION AND AFFIRMATIONS, THE BIDDER/PROPOSER WILL BE NOTIFIED BY THE AGENCY AND WILL BE GIVEN FOUR (4) CALENDAR DAYS FROM RECEIPT OF NOTIFICATION TO CURE THE SPECIFIED DEFICIENCIES AND RETURN A COMPLETED SCHEDULE B TO THE AGENCY. FAILURE TO DO SO WILL RESULT IN A DETERMINATION THAT THE BID/PROPOSAL IS NON-RESPONSIVE. RECEIPT OF NOTIFICATION IS DEFINED AS THE DATE NOTICE IS E-MAILED OR FAXED (IF THE BIDDER/PROPOSER HAS PROVIDED AN E-MAIL ADDRESS OR FAX NUMBER), OR NO LATER THAN FIVE (5) CALENDAR DAYS FROM THE DATE OF MAILING OR UPON DELIVERY, IF DELIVERED.

5. Where an M/WBE Utilization Plan has been submitted, the Contractor shall, within 30 days of issuance by Agency of a notice to proceed, submit a list of proposed persons or entities to which it intends to award subcontracts within the subsequent 12 months. In the case of multi-year contracts, such list shall also be submitted every year thereafter. The Agency may also require the Contractor to report periodically about the contracts awarded by its direct subcontractors to indirect subcontractors (as defined in Section 6-129(c)(22)). **PLEASE NOTE: If this Contract is a public works project subject to GML §101(5) (i.e., a contract valued at or**

below \$3M for projects in New York City) or if the Contract is subject to a project labor agreement in accordance with Labor Law §222, and the bidder is required to identify at the time of bid submission its intended subcontractors for the Wicks trades (plumbing and gas fitting; steam heating, hot water heating, ventilating and air conditioning (HVAC); and electric wiring), the Contractor must identify all those to which it intends to award construction subcontracts for any portion of the Wicks trade work at the time of bid submission, regardless of what point in the life of the contract such subcontracts will occur. In identifying intended subcontractors in the bid submission, bidders may satisfy any Participation Goals established for this Contract by proposing one or more subcontractors that are MBEs and/or WBEs for any portion of the Wicks trade work. In the event that the Contractor's selection of a subcontractor is disapproved, the Contractor shall have a reasonable time to propose alternate subcontractors.

6. MBE and WBE firms must be certified by DSBS in order for the Contractor to credit such firms' participation toward the attainment of the **Participation Goals**. Such certification must occur prior to the firms' commencement of work. A list of MBE and WBE firms may be obtained from the DSBS website at www.nyc.gov/buycertified, by emailing DSBS at buyer@sbs.nyc.gov, by calling (212) 513-6356, or by visiting or writing DSBS at 110 William St., New York, New York, 10038, 7th floor. Eligible firms that have not yet been certified may contact DSBS in order to seek certification by visiting www.nyc.gov/getcertified, emailing MWBE@sbs.nyc.gov, or calling the DSBS certification helpline at (212) 513-6311. A firm that is certified as both an MBE and a WBE may be counted either toward the goal for MBEs or the goal for WBEs, but not both. No credit shall be given for participation by a graduate MBE or graduate WBE, as defined in Section 6-129(c)(20).

7. Where an **M/WBE Utilization Plan** has been submitted, the Contractor shall, with each voucher for payment, and/or periodically as Agency may require, submit statements, certified under penalty of perjury, which shall include, but not be limited to,: the total amount the Contractor paid to its direct subcontractors, and, where applicable pursuant to Section 6-129(j), the total amount direct subcontractors paid to indirect subcontractors; the names, addresses and contact numbers of each MBE or WBE hired as a subcontractor by the Contractor, and, where applicable, hired by any of the Contractor's direct subcontractors; and the dates and amounts paid to each MBE or WBE. The Contractor shall also submit, along with its voucher for final payment: the total amount it paid to subcontractors, and, where applicable pursuant to Section 6-129(j), the total amount its direct subcontractors paid directly to their indirect subcontractors; and a final list, certified under penalty of perjury, which shall include the name, address and contact information of each subcontractor that is an MBE or WBE, the work performed by, and the dates and amounts paid to each.

8. If payments made to, or work performed by, MBEs or WBEs are less than the amount specified in the Contractor's **M/WBE Utilization Plan**, Agency shall take appropriate action, in accordance with Section 6-129 and Article II below, unless the Contractor has obtained a modification of its **M/WBE Utilization Plan** in accordance with Section 6-129 and Part A, Section 11 below.

9. Where an **M/WBE Utilization Plan** has been submitted, and the Contractor requests a change order the value of which exceeds the greater of 10 percent of the Contract or Task Order, as applicable, or \$500,000, Agency shall review the scope of work for the Contract or Task Order, as applicable, and the scale and types of work involved in the change order, and determine whether the **Participation Goals** should be modified.

10. Pre-award waiver of the **Participation Goals**. (a) A bidder or proposer, or contractor with respect to a Task Order, may seek a pre-award full or partial waiver of the **Participation Goals** in accordance with Section 6-129, which requests that Agency change one or more **Participation Goals** on the grounds that the **Participation Goals** are unreasonable in light of the availability of certified firms to perform the services required, or by demonstrating that it has legitimate business reasons for proposing a lower level of subcontracting in its **M/WBE Utilization Plan**.

(b) To apply for a full or partial waiver of the **Participation Goals**, a bidder, proposer, or contractor, as applicable, must complete Part III (Page 5) of Schedule B and submit such request no later than seven (7) calendar days prior to the date and time the bids, proposals, or Task Orders are due, in writing to the Agency by email at rodrigur@ddc.nyc.gov or via facsimile at (718) 391-1885. Bidders, proposers, or contractors, as applicable, who have submitted requests will receive an Agency response by no later than two (2) calendar days prior to the due date for bids, proposals, or Task Orders; provided, however, that if that date would fall on a weekend or holiday, an Agency response will be provided by close-of-business on the business day before such weekend or holiday date.

(c) If the Agency determines that the **Participation Goals** are unreasonable in light of the availability of certified firms to perform the services required, it shall revise the solicitation and extend the deadline for bids and proposals, or revise the Task Order, as applicable.

(d) Agency may grant a full or partial waiver of the Participation Goals to a bidder, proposer or contractor, as applicable, who demonstrates—before submission of the bid, proposal or Task Order, as applicable—that it has legitimate business reasons for proposing the level of subcontracting in its M/WBE Utilization Plan. In making its determination, Agency shall consider factors that shall include, but not be limited to, whether the bidder, proposer or contractor, as applicable, has the capacity and the bona fide intention to perform the Contract without any subcontracting, or to perform the Contract without awarding the amount of subcontracts represented by the Participation Goals. In making such determination, Agency may consider whether the M/WBE Utilization Plan is consistent with past subcontracting practices of the bidder, proposer or contractor, as applicable, whether the bidder, proposer or contractor, as applicable, has made efforts to form a joint venture with a certified firm, and whether the bidder, proposer, or contractor, as applicable, has made good faith efforts to identify other portions of the Contract that it intends to subcontract.

11. Modification of M/WBE Utilization Plan. (a) A Contractor may request a modification of its M/WBE Utilization Plan after award of this Contract. PLEASE NOTE: If this Contract is a public works project subject to GML §101(5) (i.e., a contract valued at or below \$3M for projects in New York City) or if the Contract is subject to a project labor agreement in accordance with Labor Law §222, and the bidder is required to identify at the time of bid submission its intended subcontractors for the Wicks trades (plumbing and gas fitting; steam heating, hot water heating, ventilating and air conditioning (HVAC); and electric wiring), the Contractor may request a Modification of its M/WBE Utilization Plan as part of its bid submission. The Agency may grant a request for Modification of a Contractor's M/WBE Utilization Plan if it determines that the Contractor has established, with appropriate documentary and other evidence, that it made reasonable, good faith efforts to meet the Participation Goals. In making such determination, Agency shall consider evidence of the following efforts, as applicable, along with any other relevant factors:

- (i) The Contractor advertised opportunities to participate in the Contract, where appropriate, in general circulation media, trade and professional association publications and small business media, and publications of minority and women's business organizations;
- (ii) The Contractor provided notice of specific opportunities to participate in the Contract, in a timely manner, to minority and women's business organizations;
- (iii) The Contractor sent written notices, by certified mail or facsimile, in a timely manner, to advise MBEs or WBEs that their interest in the Contract was solicited;
- (iv) The Contractor made efforts to identify portions of the work that could be substituted for portions originally designated for participation by MBEs and/or WBEs in the M/WBE Utilization Plan, and for which the Contractor claims an inability to retain MBEs or WBEs;
- (v) The Contractor held meetings with MBEs and/or WBEs prior to the date their bids or proposals were due, for the purpose of explaining in detail the scope and requirements of the work for which their bids or proposals were solicited;
- (vi) The Contractor made efforts to negotiate with MBEs and/or WBEs as relevant to perform specific subcontracts, or act as suppliers or service providers;
- (vii) Timely written requests for assistance made by the Contractor to Agency's M/WBE liaison officer and to DSBS;
- (viii) Description of how recommendations made by DSBS and Agency were acted upon and an explanation of why action upon such recommendations did not lead to the desired level of participation of MBEs and/or WBEs.

Agency's M/WBE officer shall provide written notice to the Contractor of the determination.

(b) The Agency may modify the **Participation Goals** when the scope of the work has been changed by the Agency in a manner that affects the scale and types of work that the Contractor indicated in its **M/WBE Utilization Plan** would be awarded to subcontractors.

12. If this Contract is for an indefinite quantity of construction, standard or professional services or is a requirements type contract and the Contractor has submitted an **M/WBE Utilization Plan** and has committed to subcontract work to MBEs and/or WBEs in order to meet the **Participation Goals**, the Contractor will not be deemed in violation of the M/WBE Program requirements for this Contract with regard to any work which was intended to be subcontracted to an MBE and/or WBE to the extent that the Agency has determined that such work is not needed.

13. If **Participation Goals** have been established for this Contract or a Task Order issued pursuant to this Contract, at least once annually during the term of the Contract or Task Order, as applicable, Agency shall review the Contractor's progress toward attainment of its M/WBE Utilization Plan, including but not limited to, by reviewing the percentage of work the Contractor has actually awarded to MBE and/or WBE subcontractors and the payments the Contractor made to such subcontractors.

14. If **Participation Goals** have been established for this Contract or a Task Order issued pursuant to this Contract, Agency shall evaluate and assess the Contractor's performance in meeting those goals, and such evaluation and assessment shall become part of the Contractor's overall contract performance evaluation.

PART B: MISCELLANEOUS

1. The Contractor shall take notice that, if this solicitation requires the establishment of an **M/WBE** Utilization Plan, the resulting contract may be audited by DSBS to determine compliance with Section 6-129. See §6-129(e)(10). Furthermore, such resulting contract may also be examined by the City's Comptroller to assess compliance with the **M/WBE** Utilization Plan.
2. Pursuant to DSBS rules, construction contracts that include a requirement for an **M/WBE** Utilization Plan shall not be subject to the law governing Locally Based Enterprises set forth in Section 6-108.1 of the Administrative Code of the City of New York.
3. DSBS is available to assist contractors and potential contractors in determining the availability of MBEs and/or WBEs to participate as subcontractors, and in identifying opportunities that are appropriate for participation by MBEs and/or WBEs in contracts.
4. Prospective contractors are encouraged to enter into qualified joint venture agreements with MBEs and/or WBEs as defined by Section 6-129(c)(30).
5. By submitting a bid or proposal the Contractor hereby acknowledges its understanding of the M/WBE Program requirements set forth herein and the pertinent provisions of Section 6-129, and any rules promulgated thereunder, and if awarded this Contract, the Contractor hereby agrees to comply with the M/WBE Program requirements of this Contract and pertinent provisions of Section 6-129, and any rules promulgated thereunder, all of which shall be deemed to be material terms of this Contract. The Contractor hereby agrees to make all reasonable, good faith efforts to solicit and obtain the participation of MBEs and/or WBEs to meet the required **Participation Goals**.

ARTICLE II. ENFORCEMENT

1. If Agency determines that a bidder or proposer, as applicable, has, in relation to this procurement, violated Section 6-129 or the DSBS rules promulgated pursuant to Section 6-129, Agency may disqualify such bidder or proposer, as applicable, from competing for this Contract and the Agency may revoke such bidder's or proposer's prequalification status, if applicable.
2. Whenever Agency believes that the Contractor or a subcontractor is not in compliance with Section 6-129 or the DSBS rules promulgated pursuant to Section 6-129, or any provision of this Contract that implements Section 6-129, including, but not limited to any **M/WBE** Utilization Plan, Agency shall send a written notice to the Contractor describing the alleged noncompliance and offering the Contractor an opportunity to be heard. Agency shall then conduct an investigation to determine whether such Contractor or subcontractor is in compliance.
3. In the event that the Contractor has been found to have violated Section 6-129, the DSBS rules promulgated pursuant to Section 6-129, or any provision of this Contract that implements Section 6-129, including, but not limited to, any **M/WBE** Utilization Plan, Agency may determine that one of the following actions should be taken:
 - (a) entering into an agreement with the Contractor allowing the Contractor to cure the violation;
 - (b) revoking the Contractor's pre-qualification to bid or make proposals for future contracts;
 - (c) making a finding that the Contractor is in default of the Contract;
 - (d) terminating the Contract;
 - (e) declaring the Contractor to be in breach of Contract;
 - (f) withholding payment or reimbursement;
 - (g) determining not to renew the Contract;
 - assessing actual and consequential damages;

- (i) assessing liquidated damages or reducing fees, provided that liquidated damages may be based on amounts representing costs of delays in carrying out the purposes of the M/WBE Program, or in meeting the purposes of the Contract, the costs of meeting utilization goals through additional procurements, the administrative costs of investigation and enforcement, or other factors set forth in the Contract;
- (j) exercising rights under the Contract to procure goods, services or construction from another contractor and charge the cost of such contract to the Contractor that has been found to be in noncompliance; or
- (k) taking any other appropriate remedy.

4. If an **M/WBE** Utilization Plan has been submitted, and pursuant to this Article II, Section 3, the Contractor has been found to have failed to fulfill its **Participation Goals** contained in its **M/WBE** Utilization Plan or the **Participation Goals** as modified by Agency pursuant to Article I, Part A, Section 11, Agency may assess liquidated damages in the amount of ten percent (10%) of the difference between the dollar amount of work required to be awarded to MBE and/or WBE firms to meet the **Participation Goals** and the dollar amount the Contractor actually awarded and paid, and/or credited, to MBE and/or WBE firms. In view of the difficulty of accurately ascertaining the loss which the City will suffer by reason of Contractor's failure to meet the **Participation Goals**, the foregoing amount is hereby fixed and agreed as the liquidated damages that the City will suffer by reason of such failure, and not as a penalty. Agency may deduct and retain out of any monies which may become due under this Contract the amount of any such liquidated damages; and in case the amount which may become due under this Contract shall be less than the amount of liquidated damages suffered by the City, the Contractor shall be liable to pay the difference.

5. Whenever Agency has reason to believe that an MBE and/or WBE is not qualified for certification, or is participating in a contract in a manner that does not serve a commercially useful function (as defined in Section 6-129(c)(8)), or has violated any provision of Section 6-129, Agency shall notify the Commissioner of DSBS who shall determine whether the certification of such business enterprise should be revoked.

6. Statements made in any instrument submitted to Agency pursuant to Section 6-129 shall be submitted under penalty of perjury and any false or misleading statement or omission shall be grounds for the application of any applicable criminal and/or civil penalties for perjury. The making of a false or fraudulent statement by an MBE and/or WBE in any instrument submitted pursuant to Section 6-129 shall, in addition, be grounds for revocation of its certification.

7. The Contractor's record in implementing its **M/WBE** Utilization Plan shall be a factor in the evaluation of its performance. Whenever Agency determines that a Contractor's compliance with an **M/WBE** Utilization Plan has been unsatisfactory, Agency shall, after consultation with the City Chief Procurement Officer, file an advice of caution form for inclusion in VENDEX as caution data.

Tax ID #: _____

APT E-
PIN#: 85016B0156

Contract # 1 - General Construction Work

SCHEDULE B - M/WBE Utilization Plan**Part I: M/WBE Participation Goals**

Part I to be completed by contracting agency

Contract Overview

APT E-Pin # 85016B0156 FMS Project ID#: CO277ELV2

Project Title/Agency Court Square Courthouse Elevator Modernization and Upgrades

PIN # 8502016CT0015C

Bid/Proposal
Response Date: OCTOBER 12, 2016

Contracting Agency Department of Design and Construction

Agency Address 30-30 Thomson Avenue City Long Island City State NY Zip Code 11101

Contact Person Norma Negrón Title MWBE Liaison & Compliance Analyst

Telephone # (718) 391-1502 Email negronn@ddc.nyc.gov

Project Description (attach additional pages if necessary)

This Project consists of the modernization and upgrades of two passengers elevators located in the building to bring the elevator system up to local code. The two elevators have been problematic for many years and desperately need to be renovated. In general, the scope of work with this project includes: Cooling and heating of the elevator machine room. Hoistway venting and smoke detection to comply with local codes. Cab Flooring - Remove existing and provide new epoxy terrazzo for the two elevators. Cab Walls - Remove existing 1" thick plastic laminate panels and provide new 3/4" thick hardwork veneer core panels with wood edge strips for the two elevators. Cab Railing - Remove existing 1-1/2" thick wood slat railing and provide new 2" metal railing for the two elevators. Cab lighting - Remove existing marble 3'X4' light fixture (including acrylic lens and wood trim) and provide new 8" wide granite for the two elevators. Threshold - Remove existing marble (basement) or mosaic tile (1st - 4th floors) and provide new 8" wide granite for the elevators at 3LF/each/floor. Hoistway Enclosure - Remove existing wrought iron decorative panels at all 5 floors, remove existing paint and refinish all existing metals (322 SF/foor). Hoistway Enclosure - Install new metallic wall covering or zolatone polomyx (roll applied) high resistance coating behind exisiting wrought iron decorative panels at all 5 floors (161 SF/floor). Structural improvements that relate to the architectural, elevator, and HVAC scope of work. Electrical work to facilitate the installation of upgraded elevator equipment, including fire alarm tie-ins.

M/WBE Participation Goals for Services

Enter the percentage amount for each group or for an unspecified goal. Please note that there are no goals for Asian Americans in Professional Services

Prime Contract Industry: Construction

Group	Percentage	
<u>Unspecified *</u>	<u>16</u>	<u>%</u>
or		
Black American	<u>Unspecified</u>	<u>%</u>
Hispanic American	<u>Unspecified</u>	<u>%</u>
Asian American	<u>Unspecified</u>	<u>%</u>
Women	<u>Unspecified</u>	<u>%</u>
Total Participation Goals	16	%

Line 1

Note: For this procurement, individual ethnicity and gender goals are not specified. The Total Participation Goals for construction contracts may be met by using Black American, Hispanic American, Asian American or Women certified firms or any combination of such firms.

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Tax ID #: _____

APT E-

PIN#: 85016B0156**SCHEDULE B - Part II: M/WBE Participation Plan**

Part II to be completed by the bidder/proposer:

Please note: For Non-M/WBE Prime Contractors who will NOT subcontract any services and will self-perform the entire contract, you must obtain a FULL waiver by completing the Waiver Application on pages 9 and 9a and timely submitting it to the contracting agency pursuant to the Notice to Prospective Contractors. Once a FULL WAIVER is granted, it must be included with your bid or proposal and you do not have to complete or submit this form with your bid or proposal.

Section I: Prime Contractor Contact Information

Tax ID # _____	FMS Vendor ID # _____
Business Name _____	Contact Person _____
Address _____	
Telephone # _____	Email _____

Section II: M/WBE Utilization Goal Calculation: Check the applicable box and complete subsection.**PRIME CONTRACTOR ADOPTING AGENCY M/WBE PARTICIPATION GOALS**

<input type="checkbox"/> For Prime Contractors (including Qualified Joint Ventures and M/WBE firms) adopting Agency M/WBE Participation Goals. Calculate the total dollar value of your total bid that you agree will be awarded to M/WBE subcontractors for services and/or credited to an M/WBE prime contractor or Qualified Joint Venture. Please review the Notice to Prospective Contractors for more information on how to obtain credit for M/WBE participation.	Total Bid/Proposal Value		Agency Total Participation Goals (Line 1, Page 6)		Calculated M/WBE Participation Amount
		X		=	\$ Line 2

PRIME CONTRACTOR OBTAINED PARTIAL WAIVER APPROVAL: ADOPTING MODIFIED M/WBE PARTICIPATION GOALS

<input type="checkbox"/> For Prime Contractors (including Qualified Joint Ventures and M/WBE firms) adopting Modified M/WBE Participation Goals. Calculate the total dollar value of your total bid that you agree will be awarded to M/WBE subcontractors for services and/or credited to an M/WBE prime contractor or Qualified Joint Venture. Please review the Notice to Prospective Contractors for more information on how to obtain credit for M/WBE participation.	Total Bid/Proposal Value		Adjusted Participation Goal (From Partial Waiver)		Calculated M/WBE Participation Amount
		X		=	\$ Line 3

Section III: M/WBE Utilization Plan: How Proposer/Bidder Will Fulfill M/WBE Participation Goals. Please review the Notice to Prospective Contractors for more information on how to obtain credit for M/WBE participation. Check applicable box. The Proposer or Bidder will fulfill the M/WBE Participation Goals:

☐ As an M/WBE Prime Contractor that will self-perform and/or subcontract to other M/WBE firms a portion of the contract the value of which is at least the amount located on Lines 2 or 3 above, as applicable. The value of any work subcontracted to non-M/WBE firms will not be credited towards fulfillment of M/WBE Participation Goals. Please check all that apply to Prime Contractor:

☐ MBE ☐ WBE

☐ As a Qualified Joint Venture with an M/WBE partner, in which the value of the M/WBE partner's participation and/or the value of any work subcontracted to other M/WBE firms is at least the amount located on Lines 2 or 3 above, as applicable. The value of any work subcontracted to non M/WBE firms will not be credited towards fulfillment of M/WBE Participation Goals.

☐ As a non M/WBE Prime Contractor that will enter into subcontracts with M/WBE firms the value of which is at least the amount located on Lines 2 or 3 above, as applicable.

Section IV: General Contract Information

What is the expected percentage of the total contract dollar value that you expect to award in subcontracts for services, regardless of M/WBE status? % _____

Enter brief description of the type(s) and dollar value of subcontracts for all any services you plan on subcontracting if awarded this contract. For each item, indicate whether the work is designated for participation by MBEs and/or WBEs and the time frame in which such work is scheduled to begin and end. Use additional sheets if necessary.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____
16. _____
17. _____

✓ **Scopes of Subcontract Work**

Section V: Vendor Certification and Required Affirmations

I hereby:

- 1) acknowledge my understanding of the M/WBE participation requirements as set forth herein and the pertinent provisions of Section 6-129 of the Administrative Code of the City of New York (Section 6-129), and the rules promulgated thereunder;
- 2) affirm that the information supplied in support of this M/WBE Utilization Plan is true and correct;
- 3) agree, if awarded this Contract, to comply with the M/WBE participation requirements of this Contract, the pertinent provisions of Section 6-129, and the rules promulgated thereunder, all of which shall be deemed to be material terms of this Contract
- 4) agree and affirm that it is a material term of this Contract that the Vendor will award the total dollar value of the M/WBE Participation Goals to certified MBEs and/or WBEs, unless a full waiver is obtained or such goals are modified by the Agency; and
- 5) agree and affirm, if awarded this Contract, to make all reasonable, good faith efforts to meet the M/WBE Participation Goals, or if a partial waiver is obtained or such goals are modified by the Agency, to meet the modified Participation Goals by soliciting and obtaining the participation of certified MBE and/or WBE firms.

Signature _____

Date _____

Print Name _____

Title _____

SCHEDULE B – PART III – REQUEST FOR WAIVER OF M/WBE PARTICIPATION REQUIREMENT

Contract Overview

Tax ID # _____ FMS Vendor ID # _____
 Business Name _____
 Contact Name _____ Telephone # _____ Email _____
 Type of Procurement ☐ Competitive Sealed Bids ☐ Other Bid/Response Due Date _____
 APT E-PIN # (for this procurement): _____ Contracting Agency: _____

M/WBE Participation Goals as described in bid/solicitation documents

_____ % Agency M/WBE Participation Goal
 Proposed M/WBE Participation Goal as anticipated by vendor seeking waiver
 _____ % of the total contract value anticipated in good faith by the bidder/proposer to be subcontracted for services and/or credited to an M/WBE Prime Contractor or Qualified Joint Venture.

Basis for Waiver Request: Check appropriate box & explain in detail below (attach additional pages if needed)

- ☐ Vendor does not subcontract services, and has the capacity and good faith intention to perform all such work itself with its own employees.
- ☐ Vendor subcontracts some of this type of work but at a lower % than bid/solicitation describes, and has the capacity and good faith intention to do so on this contract. (Attach subcontracting plan outlining services that the vendor will self-perform and subcontract to other vendors or consultants.)
- ☐ Vendor has other legitimate business reasons for proposing the M/WBE Participation Goal above. Explain under separate cover.

References

List 3 most recent contracts performed for NYC agencies (if any). Include information for each subcontract awarded in performance of such contracts. Add more pages if necessary.

CONTRACT NO.	AGENCY	DATE COMPLETED
Total Contract Amount \$ _____	Total Amount Subcontracted \$ _____	
Item of Work Subcontracted and Value of subcontract _____	Item of Work Subcontracted and Value of subcontract _____	Item of Work Subcontracted and Value of subcontract _____
CONTRACT NO. _____	AGENCY _____	DATE COMPLETED _____
Total Contract Amount \$ _____	Total Amount Subcontracted \$ _____	
Item of Work Subcontracted and Value of subcontract _____	Item of Work Subcontracted and Value of subcontract _____	Item of Work Subcontracted and Value of subcontract _____
CONTRACT NO. _____	AGENCY _____	DATE COMPLETED _____
Total Contract Amount \$ _____	Total Amount Subcontracted \$ _____	
Item of Work Subcontracted and Value of subcontract _____	Item of Work Subcontracted and Value of subcontract _____	Item of Work Subcontracted and Value of subcontract _____

List 3 most recent contracts performed for other entities. Include information for each subcontract awarded in performance of such contracts. Add more pages if necessary.

(Complete ONLY if vendor has performed fewer than 3 New York City contracts.)

TYPE OF Contract	ENTITY	DATE COMPLETED
Manager at entity that hired vendor (Name/Phone No./Email)		
Total Contract Amount \$	Total Amount Subcontracted \$	
Type of Work Subcontracted		

TYPE OF Contract	AGENCY/ENTITY	DATE COMPLETED
Manager at agency/entity that hired vendor (Name/Phone No./Email)		
Total Contract Amount \$	Total Amount Subcontracted \$	
Item of Work Subcontracted and Value of subcontract	Item of Work Subcontracted and Value of subcontract	Item of Work Subcontracted and Value of subcontract

TYPE OF Contract	AGENCY/ENTITY	DATE COMPLETED
Manager at entity that hired vendor (Name/Phone No./Email)		
Total Contract Amount \$	Total Amount Subcontracted \$	
Item of Work Subcontracted and Value of subcontract	Item of Work Subcontracted and Value of subcontract	Item of Work Subcontracted and Value of subcontract

VENDOR CERTIFICATION: I hereby affirm that the information supplied in support of this waiver request is true and correct, and that this request is made in good faith.

Signature: _____ Date: _____
 Print Name: _____ Title: _____

Shaded area below is for agency completion only

AGENCY CHIEF CONTRACTING OFFICER APPROVAL

Signature: _____ Date: _____

CITY CHIEF PROCUREMENT OFFICER APPROVAL

Signature: _____ Date: _____

Waiver Determination

Full Waiver Approved: ☐
 Waiver Denied: ☐
 Partial Waiver Approved: ☐
 Revised Participation Goal: _____ %

BID FORM
THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF PUBLIC BUILDINGS

**BID FOR FURNISHING ALL LABOR AND
MATERIAL NECESSARY AND REQUIRED FOR:**

PROJECT ID: CO277ELV2

**Court Square Courthouse Elevator Modernization and Upgrades
25-10 Court Square
Queens 11101**

Name of Bidder: _____

Date of Bid Opening: _____

Bidder is: (Check one, whichever applies) Individual () Partnership () Corporation ()

Place of Business of Bidder: _____

Bidder's Telephone Number: _____ Bidder's Fax Number: _____

Bidder's Email Address: _____

Residence of Bidder (If Individual): _____

If Bidder is a Partnership, fill in the following blanks:

Names of Partners

Residence of Partners

If Bidder is a Corporation, fill in the following blanks:

Organized under the laws of the State of _____

Name and Home Address of President: _____

Name and Home Address of Secretary: _____

Name and Home Address of Treasurer: _____

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BID FORM

The above-named Bidder affirms and declares:

1. The said bidder is of lawful age and the only one interested in this bid; and no person, firm or corporation other than hereinbefore named has any interest in this bid, or in the Contract proposed to be taken.
2. By submission of this bid, each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid each party thereto certifies as to its own organization, under penalty of perjury, that to the best of its knowledge and belief: (1) the prices in this bid have been arrived at independently without collusion, consultation, communication or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other bidder or with any competitor; (2) unless otherwise required by law, the prices quoted in this bid have not been knowingly disclosed by the bidder and will not knowingly be disclosed by the bidder prior to opening, directly or indirectly, to any other bidder or to any competitor; and (3) no attempt has been made or will be made by the bidder to induce any other person, partnership or corporation to submit or not to submit a bid for the purpose of restricting competition.
3. No councilman or other officer or employee or person whose salary is payable in whole or in part from the City Treasury is directly or indirectly interested in this bid, or in the supplies, materials, equipment, work or labor to which it relates, or in any of the profits thereof.
4. The bidder is not in arrears to the City of New York upon debt or contract or taxes, and is not a defaulter, as surety or otherwise, upon any obligation of the City of New York, and has not been declared not responsible, or disqualified, by any agency of the City of New York or State of New York, nor is there any proceeding pending relating to the responsibility or qualification of the bidder to receive public contracts except as set forth on the Affirmation included as page 17 of this Bid Booklet.

The bidder hereby affirms that it has paid all applicable City income, excise and other taxes for all years it has conducted business activities in New York City.

5. The bidder, as an individual, or as a member, partner, director or officer of the bidder, if the same be a firm, partnership or corporation, executes this document expressly warranting and representing that should this bid be accepted by the City and the Contract awarded to him, he and his subcontractors engaged in the performance:
(1) will comply with the provisions of Section 6-108 of the Administrative Code of the City of New York and the non-discrimination provisions of Section 220a of the New York State Labor Law, as more expressly and in detail set forth in the Agreement; (2) will comply with Section 6-109 of the Administrative Code of the City of New York in relation to minimum wages and other stipulations as more expressly and in detail set forth in the Agreement; (3) have complied with the provisions of the aforesaid laws since their respective effective dates, and (4) will post notices to be furnished by the City, setting forth the requirements of the aforesaid laws in prominent and conspicuous places in each and every plant, factory, building and structure where employees engaged in the performance of the Contract can readily view it, and will continue to keep such notices posted until the supplies, materials and equipment, or work labor and services required to be furnished or rendered by the Contractor have been finally accepted by the City. In the event of any breach or violation of the foregoing, the Contractor may be subject to damages, liquidated or otherwise, cancellation of the Contract and suspension as a bidder for a period of three years. (The words, "the bidder", "he", "his", and "him" where used shall mean the individual bidder, firm, partnership or corporation executing this bid).

6. Compliance Report

The bidder, as an individual, or as a member, partner, director, or officer of the bidder, if the same be a firm, partnership, or corporation, (1) represents that his attention has been specifically drawn to Executive Order No. 50, dated April 25, 1980, on Equal Employment Compliance of the contract, and (2) warrants that he will comply with the provisions of Executive Order No. 50. The Employment Report must be submitted as part of the bid.

The bidder, as an individual, or as a member, partner, director, or officer of the bidder, if the same be a firm, partnership, or corporation, executes this document expressly warranting that he will comply with: (1) the provision of the contract on providing records, Chapter 8.

7. By submission of this bid, the bidder certifies that it now has and will continue to have the financial capability to fully perform the work required for this contract. Any award of this contract will be made in reliance upon such certification. Upon request therefor, the bidder will submit written verification of such financial capability in a form that is acceptable to the department.
8. In accordance with Section 165 of the State Finance Law, the bidder agrees that tropical hardwoods, as defined in Section 165 of the State Finance Law, shall not be utilized in the performance of this Contract, except as the same are permitted by the foregoing provision of law.
9. The bidder has visited and examined the site of the work and has carefully examined the Contract in the form approved by the Corporation Counsel, and will execute the Contract and perform all its items, covenants and conditions, and will provide, furnish and deliver all the work, materials, supplies, tools and appliances for all labor and materials necessary or required for the hereinafter named work, all in strict conformity with the Contract, for the prices set forth in the Bid Schedule:
10. **M/WBE UTILIZATION PLAN:** By signing its bid, the bidder agrees to the Vendor Certification and Required Affirmations set forth below, unless a full waiver of the Participation Goals is granted. The Vendor Certification and Required Affirmations will be deemed to satisfy the requirement to complete Section V of Part II of Schedule B: M/WBE Utilization Plan.
- Section V: Vendor Certification and Required Affirmations:**
- I hereby:
- 1) acknowledge my understanding of the M/WBE participation requirements as set forth in this Contract and the pertinent provisions of Section 6-129 of the Administrative Code of the City of New York and the rules promulgated thereunder;
 - 2) affirm that the information supplied in support of the M/WBE Utilization Plan is true and correct;
 - 3) agree, if awarded this Contract, to comply with the M/WBE participation requirements of this Contract, the pertinent provisions of Section 6-129, and the rules promulgated thereunder, all of which shall be deemed to be material terms of this Contract;
 - 4) agree and affirm that it is a material term of this Contract that the Vendor will award the total dollar value of the M/WBE Participation Goals to certified MBEs and/or WBEs, unless a full waiver is obtained or such goals are modified by the Agency; and
 - 5) agree and affirm, if awarded this Contract, to make all reasonable, good faith efforts to meet the M/WBE Participation Goals, or If a partial waiver is obtained or such goals are modified by the Agency, to meet the modified Participation Goals by soliciting and obtaining the participation of certified MBE and/or WBE firms.

Unit Price Schedule - Elevator Maintenance

Unit Price items: The items of work set forth in the Schedule below shall be performed by the contractor on a unit price basis for additional work. Such items of work shall be performed by the contractor only as directed in writing by the Commissioner.

The bidder shall submit prices for all the items of work in the Schedule below. The bidder shall insert the total sum for all unit price items on the Bid Form, Item C - Allowance for Unit Prices. The unit price bid for each item shall include all costs and expense for the item, i.e., labor, material, overhead and profit. Estimated quantities shown are approximate and for bid comparison purposes only. Actual amounts to be determined when the work is performed.

SPARE PARTS - Elevator Maintenance (section 142123, Article 1.2, sub-article K) & Intercom System (section 142123, Article 2.9, sub-article D-10)

Item #	Item Description		Quant.	Units	Unit Price	Total
1	GAL Hoistway Door Interlock Assembly		10	EA		
2	GAL Hoistway/Car hanger track		6	EA		
3	GAL Hoistway and Car Door Rollers		10	EA		
4	GAL Interlock Release Rollers		10	EA		
5	Door Detector Assembly		2	EA		
6	Roller Wheels Complete of Each Type Used		10	EA		
7	Leveling Unit & Encoder		2	EA		
8	Hoistway Limit Switches		10	EA		
9	GAL Car Door Clutch Assembly		2	EA		
10	Load Weighing Device		1	EA		
	Push Button Assembly		10	EA		
12	GAL, or approved equal Gate Switches		2	EA		
13	Toggle Switch & Keyswitch Assemblies		5	EA		
14	Keys for Each Different Type Used		20	EA		
15	LED Position Indicators & Drive Boards		5	EA		
16	Stop Switch		5	EA		
17	Printed Circuit Boards		5	EA		
18	High & Low Voltage Relays		4	EA		
19	Spare Parts Indicated in Intercommunications Section		3	EA		
20	Remote Fault Monitoring Computer System in Motor Room		1	EA		
21	Silicon Control (VVVF-AC) Power Drive		1	EA		
22	Monitors for each used, controllers and dispatcher		1	EA		
23	Brake coils for each type in use		2	EA		
24	Brake assemblies complete of each type in use		1	EA		
25	Chokes and filters of each different type used		1	EA		
26	Power supplies of each different type used		6	EA		
27	Feedback tachometers of each type used		4	EA		
	Encoders for each type used		4	EA		
29	Door gibs		50	EA		

30	Emergency lighting units complete of each different type used	2	EA	
31	Door operators of each type in use	1	EA	
32	Door motors of each type in use	1	EA	
33	Side and top Emergency exit switch assemblies	2	EA	
34	Top of car run boxes complete	2	EA	
35	Hall Lantern bell/gong	24	EA	
36	Hall Lantern covers of each type used	5	EA	
37	EEPROM chips for all elevator controls and dispatcher, final as built	1	SET	
38	Fans for cabs	4	EA	
39	Lobby panel components, switches (keyed and toggle), glass doors	3	EA	
	INTERCOM SYSTEM:			
40	Cabinet Lock of each type used	1	EA	
41	Solid-state board of each type used	1	EA	
42	Power supply of each typed used (Ferrups not included)	1	EA	
43	Master station of each type used	1	EA	
44	Button Boards of each type used	2	EA	
45	Electronic warblers, bells, horns & strobes of each type	2	EA	
46	Car stations of each type used	2	EA	
47	Buttons and contacts of each type used	5	EA	
48	Fuses of each type used	10	EA	
49	Bulbs of each type used	10	EA	
50	Keys of each type used	10	EA	
Total Amount of SPARE PARTS - Elevator Maintenance & Intercom System (MATERIALS ONLY)				

INTERIM MAINTENANCE - Elevator Maintenance (section 142123, article 1.5)

Item #	Item Description	Quant.	Units	Unit Price	Total
1	Full Comprehensive preventative interim maintenance and related services until final completion and acceptance of both elevators by Commissioner.	2	PER CAR		
Total Amount of INTERIM MAINTENANCE - Elevator Maintenance					

GUARANTEE FULL SERVICE ELEVATOR MAINTENANCE (section 142123, article 1.5)

Item #	Item Description	Quant.	Units	Unit Price	Total
1	Full Comprehensive preventative maintenance services for a period of twelve (12) months per each elevator car after the final completion and acceptance of the project.	2	PER CAR		
Total Amount of FULL SERVICE ELEVATOR MAINTENANCE					

TOTAL AMOUNT OF UNIT PRICE WORK - ELEVATOR MAINTENANCE

SPARE PARTS plus INTERIM MAINTENANCE plus GUARANTEE FULL SERVICE ELEVATOR MAINTENANCE

* Insert Total amount of Unit Price Work on line C of Bid Form

BID FORM

PROJECT ID: CO277ELV2

TOTAL BID PRICE: In the space provided below, the Bidder shall indicate the total bid price in figures.

- A. **LUMP SUM PRICE** - Total price for all labor and material for all required work, excluding items (B), (C) and (D) set forth below. Total Price shall include all costs and expenses, i.e. labor, material overhead and profit for all the Work, described and shown in the drawings and specifications.

Total Price for
Material Sold and
Delivered

Total Price For
Labor

\$ _____ + \$ _____ Total Price for Item A= \$ _____

- B. ALLOWANCE for Incidental Asbestos Abatement (Section 028013 of the Specifications) \$15,000.00
- C. AMOUNT for Proprietary Items (pages 2a,2b) \$2,965.00
- D. Total Amount of Unit Price Work
ELEVATOR MAINTENANCE AND RELATED WORK
(pages 13-1 & 13-2) \$ _____
- TOTAL BID PRICE (Add A + B + C + D)** \$ _____
(a/k/a BID PROPOSAL)

BIDDER'S SIGNATURE AND AFFIDAVIT

- * **SUBCONTRACTOR IDENTIFICATION:** You MUST complete and submit the form entitled "Bidder's Identification of Subcontractors" (page 17) at the time you submit your bid. You must submit this form in a separate, sealed envelope (BID ENVELOPE #2). In the event an award of contract is not made to the Bidder, the Bidder hereby authorizes the Agency to shred the form entitled "Bidder's Identification of Subcontractors". Yes _____ No _____

Bidder: _____

By: _____
(Signature of Partner or corporate officer)

Attest:
(Corporate Seal)

Secretary of Corporate Bidder

Affidavit on the following page should be subscribed and sworn to before a Notary Public

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BID FORM (TO BE NOTARIZED)

AFFIDAVIT WHERE BIDDERS IS AN INDIVIDUAL

STATE OF NEW YORK, COUNTY OF _____ ss:

being duly sworn says:

I am the person described in and who executed the foregoing bid, and the several matters therein stated are in all respects true.

(Signature of the person who signed the Bid)

Subscribed and sworn to before me this
_____ day of _____,

Notary Public

AFFIDAVIT WHERE BIDDERS IS A PARTNERSHIP

STATE OF NEW YORK, COUNTY OF _____ ss:

being duly sworn says:

I am a member of _____ the firm described in and which executed the foregoing bid.
I subscribed the name of the firm thereto on behalf of the firm, and the several matters therein stated are in all respects true.

(Signature of Partner who signed the Bid)

Subscribed and sworn to before me this
_____ day of _____,

Notary Public

AFFIDAVIT WHERE BIDDERS IS A CORPORATION

STATE OF NEW YORK, COUNTY OF _____ ss:

being duly sworn says:

I am the _____ of the above named corporation whose name is subscribed to and which executed
the foregoing bid. I reside at _____
I have knowledge of the several matters therein stated, and they are in all respects true.

(Signature of Corporate Officer who signed the Bid)

Subscribed and sworn to before me this
_____ day of _____,

Notary Public

AFFIRMATION

The undersigned bidder affirms and declares that said bidder is not in arrears to the City of New York upon debt contract or taxes and is not a defaulter, as surety or otherwise, upon obligation to the City of New York, and has not been declared not responsible, or disqualified, by any agency of the City of New York, nor is there any proceeding pending relating to the responsibility or qualification of the bidder to receive public contracts except _____

(If none, the bidder shall insert the word "None" in the space provided above.)

Full Name of Bidder: _____

Address: _____

City: _____ State: _____ Zip Code: _____

CHECK ONE BOX AND INCLUDE APPROPRIATE NUMBER:

☐ A - Individual or Sole Proprietorship *
SOCIAL SECURITY NUMBER

☐ B - Partnership, Joint Venture or other unincorporated organization
EMPLOYER IDENTIFICATION NUMBER

☐ C - Corporation
EMPLOYER IDENTIFICATION NUMBER

By: _____
Signature:

Title: _____

If a corporation, place seal here

This affirmation must be signed by an officer or duly authorized representative.

* Under the Federal Privacy Act the furnishing of Social Security Numbers by bidders on City contracts is voluntary. Failure to provide a Social Security Number will not result in a bidder's disqualification. Social Security Numbers will be used to identify bidders, proposers or vendors to ensure their compliance with laws, to assist the City in enforcement of laws, as well as to provide the City a means of identifying of businesses which seek City contracts.

BIDDER'S IDENTIFICATION OF SUBCONTRACTORS

NOTICE TO BIDDERS

SUBMISSION: The Bidder must, at the time of the bid, submit the completed form on the next page ("BIDDER'S IDENTIFICATION OF SUBCONTRACTORS"). This form must be submitted in a separate, sealed envelope (BID ENVELOPE #2). Failure to do so will result in the disqualification of the bid as non-responsive.

Please be advised that pursuant to GML § 101(5) the Bidder is required to submit with its bid the names of subcontractors it intends to use to perform the following work on this contract, as well as the agreed-upon amount to be paid to each:

- plumbing and gas fitting;
- steam heating, hot water heating, ventilating and air conditioning apparatus; and
- electric wiring and standard illuminating fixtures.

NOTE: This project may not involve all of the above listed subcontractors. Please see the form on the next page which indicates the subcontractors required for this Project.

All listed subcontractors must be used to perform the work identified on this form for the amount listed. The listed subcontractors are not alternatives to each other. The list of subcontractors is to be submitted in a separate sealed envelope by completing the form 'Bidders Identification of Subcontractors' for any subcontractors intended to be used in any of the three trades listed above. If bidder intends to use its own forces for any of the above listed work, bidder should complete this form using its own name.

Failure to submit the completed form on the next page ("Bidder's Identification of Subcontractors") that includes the names of subcontractors and the agreed upon amounts to be paid to such subcontractors will render the bid non-responsive.

PLEASE NOTE: for any contract that is subject to M/WBE Participation Goals under Local Law 129, if the bidder's intention to use its own forces to do any of the above-referenced work would result in Bidder's failure to attain the Target Subcontracting Percentage identified in Schedule B (Subcontractor Utilization Plan), the bid will be non-responsive unless the bidder requests and obtains a Waiver of Target Subcontracting Percentage (Schedule B, Part III) in advance of bid submission. Failure to submit the completed 'BIDDERS IDENTIFICATION OF SUBCONTRACTORS' form that includes the names of subcontractors and the agreed upon amounts to be paid to such subcontractors will render the bid non-responsive.

After the low bid is announced, the sealed list submitted by the low bidder will be opened and the names of the subcontractors will be announced. The sealed lists of subcontractors submitted by all other bidders shall be maintained by the Agency unopened unless such bidder shall become the low bidder (e.g., the initial low bidder is found non-responsive). All unopened lists of subcontractors shall be returned to the bidders unopened after contract award, unless the bidder has given the agency permission to shred the form.

After bid submission, any change of subcontractor or agreed-upon amount to be paid to each shall require approval of the Agency upon a showing of a legitimate construction need which shall include, but not be limited to, a change in project specifications, a change in project material costs, a change to subcontractor status as determined pursuant to §222 (2)(e) of the Labor Law, or if the subcontractor has become otherwise unwilling, unable or unavailable to perform the subcontract.

BIDDER'S IDENTIFICATION OF SUBCONTRACTORS

Project ID: CO277ELV2

SUBMISSION: In addition to its Bid (Bid Envelope # 1), the Bidder must, at the time of the bid, complete and submit this form in a separate, sealed envelope (Bid Envelope # 2). To complete this form, the Bidder must identify the subcontractors it intends to use for the work listed below, as well as the dollar amount to be paid to each subcontractor. Failure to complete this form and submit it in a separate, sealed envelope will result in the disqualification of the bid as non-responsive.

The Bidder intends to use the following subcontractors. If the Bidder intends to do any of the work referenced below with its own forces, the Bidder should complete this form using its own name. If multiple subcontractors for any trade are proposed, Bidder may submit multiple copies of this form.

1. **PLUMBING CONTRACTOR:**

Description of Plumbing Work:

(Print Name)

Agreed amount to be paid Subcontractor: \$ _____

2. **HVAC CONTRACTOR:**

Description of HVAC Work:

(Print Name)

Agreed amount to be paid Subcontractor: \$ _____

3. **ELECTRICAL CONTRACTOR:**

Description of Electrical Work:

(Print Name)

Agreed amount to be paid Subcontractor: \$ _____

BIDDER'S SIGNATURE: The Bidder must sign and complete this form in the spaces provided below:

(Bidder's Signature)

(Print Name)

(Address)

(Title)

(Phone #)

(Fax#)

(Date)

BID BOND 1
FORM OF BID BOND

KNOW ALL MEN BY THESE PRESENTS. That we, _____

hereinafter referred to as the "Principal", and _____

hereinafter referred to as the "Surety" are held and firmly bound to THE CITY OF NEW YORK, hereinafter referred to as the "CITY", or to its successors and assigns in the penal sum of _____

(\$ _____), Dollars lawful money of the United States, for the payment of which said sum of money well and truly to be made, we, and each of us, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

Whereas, the Principal is about to submit (or has submitted) to the City the accompanying proposal, hereby made a part hereof, to enter into a contract in writing for _____

NOW, THEREFORE, the conditions of this obligation are such that if the Principal shall not withdraw said Proposal without the consent of the City for a period of forty-five (45) days after the opening of bids and in the event of acceptance of the Principal's Proposal by the City, if the Principal shall:

- (a) Within ten (10) days after notification by the City, execute in quadruplicate and deliver to the City all the executed counterparts of the Contract in the form set forth in the Contract Documents, in accordance with the proposal as accepted, and
- (b) Furnish a performance bond and separate payment bond, as may be required by the City, for the faithful performance and proper fulfillment of such Contract, which bonds shall be satisfactory in all respects to the City and shall be executed by good and sufficient sureties, and
- (c) In all respects perform the agreement created by the acceptance of said Proposal as provided in the Information for Bidders, bound herewith and made a part hereof, or if the City shall reject the aforesaid Proposal, then this obligation shall be null and void; otherwise to remain in full force and effect.

BID BOND 2

In the event that the Proposal of the Principal shall be accepted and the Contract be awarded to him the Surety hereunder agrees subject only to the payment by the Principal of the premium therefore, if requested by the City, to write the aforementioned performance and payment bonds in the form set forth in the Contract Documents.

It is expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall in no event exceed the penal amount of this obligation as herein stated.

There shall be no liability under this bond if, in the event of the acceptance of the Principal's Proposal by the City, either a performance bond or payment bond, or both, shall not be required by the City on or before the 30th day after the date on which the City signs the Contract.

The surety, for the value received, hereby stipulates and agrees that the obligations of the Surety and its bond shall in no way be impaired or affected by any postponements of the date upon which the City will receive or open bids, or by any extensions of time within which the City may accept the Principal's Proposal, or by any waiver by the City of any of the requirements of the Information for Bidders, and the Surety hereby waives notice of any such postponements, extensions, or waivers.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers the _____ day of _____, _____.

(Seal)

Principal

(L.S.)

By: _____

(Seal)

Surety

By: _____

BID BOND 3

ACKNOWLEDGEMENT OF PRINCIPAL, IF A CORPORATION

State of _____ County of _____ ss:
On this _____ day of _____, _____, before me personally came
_____ to me known, who, being by me duly sworn, did depose and say that he
resides at _____
that he is the _____ of _____
the corporation described in and which executed the foregoing instrument; that he knows the seal of said
corporation; that one of the seals affixed to said instrument is such seal; that it was so affixed by order of the
directors of said corporation, and that he signed his name thereto by like order.

Notary Public

ACKNOWLEDGEMENT OF PRINCIPAL, IF A PARTNERSHIP

State of _____ County of _____ ss:
On this _____ day of _____, _____, before me personally appeared
_____ to me known and known to me to be one of the members of the firm of
_____ described in and who executed the foregoing instrument, and he
acknowledged to me that he executed the same as and for the act and deed of said firm.

Notary Public

ACKNOWLEDGEMENT OF PRINCIPAL, IF AN INDIVIDUAL

State of _____ County of _____ ss:
On this _____ day of _____, _____, before me personally appeared
_____ to me known and known to me to be the person described in and who
executed the foregoing instrument and acknowledged that he executed the same.

Notary Public

AFFIX ACKNOWLEDGEMENTS AND JUSTIFICATION OF SURETIES

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BID BREAKDOWN

Submission: Bidders are advised that the requirement to submit a Bid Breakdown applies to each contract for which an "X" is indicated before the word "Yes". If required, the bidder must submit, with its bid, a completed Bid Breakdown. Failure to provide a completed Bid Breakdown may result in rejection of the bid as non-responsive.

 X YES NO

Limitations on Use of Bid Breakdown:

Bidders are advised that the Bid Breakdown shall be used for bid analysis purposes only and shall not be binding for any other purposes under the Contract, including, without limitation, for payment purposes or in connection with a contractor claim for extra work. If the form for the Bid Breakdown does not include an item of work required by the Contract Documents, such omission shall have no effect whatsoever, nor shall it be used by the contractor in connection with a claim for extra work (i.e., work for which the contractor is entitled to a change order).

Instructions for Preparing Bid Breakdown:

- (A) The Bid Breakdown is set forth on the following pages of this Bid Booklet and is in accordance with the Construction Specification Institute (CSI) format. For all items of work listed in the Bid Breakdown, the bidder must indicate the price for labor and the price for material, as well as the estimated quantities required.
- (B) In preparing its Bid Breakdown, the bidder shall submit prices that include all costs for overhead and profit. Overhead shall include, without limitation, all costs in connection with the following: administration, management, superintendence, small tools, insurance, bonds, and provision of services or items required by the General Conditions [except for Security/Fire Guard Services and Temporary Heat]. If the Project requires Security/Fire Guard Services and/or Temporary Heat, such service(s) will be included as separate line items in the Bid Breakdown.
- (C) If an item is set forth in the Bid Breakdown, but is not included in the Contract Documents (Drawings, Specifications, General Conditions, and/or Addenda), the bidder is advised to leave the item blank and exclude the cost of the item from its grand total. In an attachment to its Bid Breakdown, the bidder shall provide a list of all items left blank.
- (D) If an item is not set forth in the Bid Breakdown, but is included in the Contract Documents (Drawings, Specifications, General Conditions, and/or Addenda), the bidder is advised to add the item to its Bid Breakdown and include the cost of the item in its grand total. In an attachment to its Bid Breakdown, the bidder shall provide a list of all items added.

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Department of
Design and
Construction

CONTRACTOR'S BID BREAKDOWN FORM

CONTRACT 1 - GENERAL CONSTRUCTION WORK

Project: Court Square Courthouse Elevator Modernization and Upgrades

Location: 25-10 Court Square, Queens, NY 11101

Bidder:

DDC ID: CO277ELV2

Sponsor Agency: DCAS

CSI Number	Description	Quantity	Unit	Unit Cost of Material	Total Cost of Material	Unit Cost of Labor	Total Cost of Labor	Total Cost: Materials and Labor
	CONTRACT 1 - GENERAL CONSTRUCTION WORK							
01 0000	GENERAL REQUIREMENTS							
01 0000	MOBILIZATION							
	Security Guards		LS					
	Subtotal							
02 0000	EXISTING CONDITIONS							
02 4119	SELECTIVE STRUCTURE DEMOLITION							
	Protecting hoistway and machine rooms during construction		ls					
	Machine room slab concrete slabs, elevator pit, supports, etc.		ls					
	Access ladders		ea					
	Barricades to protect the hoistway openings during equipment installation		ls					
	Protect each hoistway entrance head and side jamb after installation with plywood		openings					
	Provide a continuous sill support at each hoistway, opening 3'-4"		lf					
	New Stairway with 42" high handrails for access to machine level		ea					
	Scaffolding and misc coordination & protection		ls					
	Remove existing cab flooring		sf					
	Remove doors		ea					
	Smoke vent to be remove from machine room		loc					
	Existing concrete pads to be removed from machine room		ea					
	Subtotal							
03 0000	CONCRETE							
03 3000	CAST-IN-PLACE CONCRETE							
	Cutting concrete slabs as required, patching & finishing		elev					
	Cover smoke vent to match existing (4'x3') w/ concrete infill over metal deck		ls					
	Subtotal							

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**Department of
Design and
Construction**

CONTRACTOR'S BID BREAKDOWN FORM

CONTRACT 1 - GENERAL CONSTRUCTION WORK

Project: Court Square Courthouse Elevator Modernization and Upgrades

Location: 25-10 Court Square, Queens, NY 11101

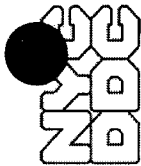
Bidder:

DDC ID: CO277ELV2

Sponsor Agency: DCAS

CSI Number	Description	Quantity	Unit	Unit Cost of Material	Total Cost of Material	Unit Cost of Labor	Total Cost of Labor	Total Cost: Materials and Labor
04 0000	MASONRY							
04 2000	UNIT MASONRY							
	Patching, repairing, and installing of masonry or drywall for hoistway installation		stops					
	Grouting new entrance sills and frames		stops					
	Patch concrete at grille removal		ea					
	Subtotal							
05 0000	METALS							
05 3000	METAL DECKING							
	Cutting of openings		ls					
	Subtotal							
05 7000	DECORATIVE METAL							
	1-1/2" brushed brass handrail at interior cab		lf					
	Woven metal panels at interior cab walls and ceiling		sf					
	all projections, recessed or setback over 2"		openings					
	Access ladders		ea					
	New Stairway with 42" high handrails for access to machine level		ea					
	Subtotal							
07 0000	THERMAL AND MOISTURE PROTECTION							
07 8413	PENETRATION FIRESTOPPING							
	Waterproof elevator pits and setting pit supports and rails		ea					
	Penetration Firestopping		ls					
	Subtotal							
07 9200	JOINT SEALANTS							
	Caulking and sealing		ls					
	Subtotal							

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**Department of
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CONTRACT 1 - GENERAL CONSTRUCTION WORK

Project: Court Square Courthouse Elevator Modernization and Upgrades

Location: 25-10 Court Square, Queens, NY 11101

Bidder:

DDC ID: CO277ELV2

Sponsor Agency: DCAS

CSI Number	Description	Quantity	Unit	Unit Cost of Material	Total Cost of Material	Unit Cost of Labor	Total Cost of Labor	Total Cost: Materials and Labor
08 0000	OPENINGS							
08 1113	HOLLOW METAL DOORS AND FRAMES							
	36" wide 16 GA insulated HM door w/ 90-min fire rated self closing, self locking hardware at machine room		ea					
	Fire rated access doors w/ automatic closing devices and self-latching lock		ea					
	Access doors - in addition to mechanical		ls					
	Subtotal							
08 7100	DOOR HARDWARE (included w/ 081113)							
09 0000	FINISHES							
09 2116.23	GYPSUM BOARD SHAFT WALL ASSEMBLIES							
	Patching, repairing, and installing of masonry or drywall for hoistway installation		stops					
	5/8" gyp. Bd. Laminated at removed window		loc					
	Miscellaneous blocking, supports, and general carpentry		ls					
	Subtotal							
09 2216	NON-STRUCTURAL METAL FRAMING (included w/ 092116.23)							
09 6623	RESINOUS MATRIX TERRAZZO FLOORING							
	Provide new epoxy terrazzo floor		sf					
	Stone Tiling: new limestone threshold, 3'4"		ea					
	Subtotal							
09 9123	INTERIOR PAINTING							
	Remove, paint, and reinstall wrought iron grills		sf					
	Repaint exterior elevator enclosure, wrought iron and doors: Doors, 3'4"x6'8"		ea					

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**Department of
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Location: 25-10 Court Square, Queens, NY 11101

Bidder:

DDC ID: CO277ELV2

Sponsor Agency: DCAS

CSI Number	Description	Quantity	Unit	Unit Cost of Material	Total Cost of Material	Unit Cost of Labor	Total Cost of Labor	Total Cost: Materials and Labor
	Enclosure		sf					
	Paint HM doors and frames		ea					
	Subtotal							
09 9419	MULTICOLOR INTERIOR FINISHING							
	Repainting above wainscoting at basement level to match elevator enclosure - 4' height above wainscoting		sf					
	Paint gypsum board behind wrought iron grills		sf					
	Subtotal							
10 0000	SPECIALTIES							
10 1423	PANEL SIGNAGE							
	"Danger Elevator Pit" sign		ea					
	1'x1' exit plan signage		ea					
	Misc. specialties		ls					
	Subtotal							
14 0000	CONVEYING EQUIPMENT							
14 2105	ELEVATOR CABS (included w/ 142123)							
14 2123	ELECTRIC TRACTION PASSENGER ELEVATORS							
	Controller		ea					
	Motor-drive		ea					
	Hoist machine replacement		ea					
	Dispatchers		ls					
	Governors		ea					
	Hoistway door operating equipment		ea					
	Car door operators		ea					
	Hall call		ea					
	Car arrival lanterns		ea					

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CONTRACT 1 - GENERAL CONSTRUCTION WORK

Project: Court Square Courthouse Elevator Modernization and Upgrades

Location: 25-10 Court Square, Queens, NY 11101

Bidder: _____

DDC ID: CO277ELV2

Sponsor Agency: DCAS

CSI Number	Description	Quantity	Unit	Unit Cost of Material	Total Cost of Material	Unit Cost of Labor	Total Cost of Labor	Total Cost: Materials and Labor
	Car operating panels		ea					
	Intercom		ea					
	Wiring and travelers		ea					
	Limits		ea					
	Cabs		ea					
	Buffers		ea					
	Wire ropes		ea					
	Guide rail overhaul		ea					
	Car sling/platform		ea					
	Roller guides car and Cwt		ea					
	Counterweight overhaul		ea					
	Spare parts		ls					
	Misc.		ea					
	Subtotal							
22 0000	PLUMBING							
22 0002	PLUMBING GENERAL CONDITIONS							
	Miscellaneous plumbing demo		ls					
	Testing		ls					
	Firestopping / patching		ls					
	Miscellaneous plumbing work		ls					
	Subtotal							
22 0523	VALVES (included w/ 221316)							
22 0529	HANGERS, SUPPORTS, ANCHORS AND GUIDES (included w/ 221316)							

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CONTRACT 1 - GENERAL CONSTRUCTION WORK

Project: Court Square Courthouse Elevator Modernization and Upgrades

Location: 25-10 Court Square, Queens, NY 11101

Bidder:

DDC ID: CO277ELV2

Sponsor Agency: DCAS

CSI Number	Description	Quantity	Unit	Unit Cost of Material	Total Cost of Material	Unit Cost of Labor	Total Cost of Labor	Total Cost: Materials and Labor
22 1316	SANITARY WASTE AND VENT PIPING AND FITTING MATERIALS							
	Pump discharge piping:							
	2" Pipe size		lf					
	Check valve, 2"		ea					
	Cleanout		ea					
	Tie-in to existing system		ea					
	Subtotal							
22 1429	SUMP PUMPS							
	Elevator sump pump; 50 gpm, 20 tdh, remote control panel for oil monitoring, and alarm, control wiring - factory supplied		ea					
	Subtotal							
23 0000	HEATING, VENTILATING, AND AIR-CONDITIONING (HVAC)							
23 0002	HVAC SPECIAL CONDITIONS (included w/ 230003)							
23 0003	HVAC SCOPE OF WORK							
	Demo Air conditioner; window type		ea					
	Demo Electric unit heater		ea					
	Demo exhaust fan		ea					
	Demo Motor operated damper		ea					
	Patch wall opening for AC window unit		ea					
	Miscellaneous mechanical demo		ls					
	Controls:							
	Split AC system		ea					
	MOD		ea					
	Fan		ea					
	Thermostat		ea					
	Smoke detector; duct type		ea					

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**Department of
Design and
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CONTRACTOR'S BID BREAKDOWN FORM

CONTRACT 1 - GENERAL CONSTRUCTION WORK

Project: Court Square Courthouse Elevator Modernization and Upgrades

Location: 25-10 Court Square, Queens, NY 11101

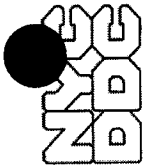
Bidder:

DDC ID: CO277ELV2

Sponsor Agency: DCAS

CSI Number	Description	Quantity	Unit	Unit Cost of Material	Total Cost of Material	Unit Cost of Labor	Total Cost of Labor	Total Cost: Materials and Labor
	Control / low voltage wiring		ls					
	Testing		ls					
	Hoisting / Distribution / Elevator Time		ls					
	Subtotal							
23 0005	ACCESS DOORS IN GENERAL CONSTRUCTION (included w/ 231113)							
23 0200	FIRESTOPPING							
	Firestopping		ls					
	Subtotal							
23 0513	ELECTRIC MOTORS (included w/ 230003)							
23 0529	HANGERS, ANCHORS AND SUPPORTS (included w/ 231113 & 235210)							
23 0548	VIBRATION ISOLATION (included w/ 230003)							
23 0553	SYSTEMS IDENTIFICATION (included w/ 231113 & 235210)							
23 0593	TESTING, ADJUSTING AND BALANCING							
	Air Balancing		ls					
	Subtotal							
23 0700	INSULATION (included w/ 231113 & 235210)							
23 1113	SHEETMETAL							
	Air Distribution:							
	Ducted Elevator Vent With Firewrap		ea					

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**Department of
Design and
Construction**

CONTRACTOR'S BID BREAKDOWN FORM

CONTRACT 1 - GENERAL CONSTRUCTION WORK

Project: Court Square Courthouse Elevator Modernization and Upgrades

Location: 25-10 Court Square, Queens, NY 11101

Bidder: _____

DDC ID: CO277ELV2

Sponsor Agency: DCAS

CSI Number	Description	Quantity	Unit	Unit Cost of Material	Total Cost of Material	Unit Cost of Labor	Total Cost of Labor	Total Cost: Materials and Labor
	Louver		ea					
	Gravity damper		ea					
	MOD		ea					
	MOD OAI		ea					
	Fire wrap for existing louver sheet metal plenum		ls					
	Access door		ea					
	Tie-in to existing system		loc					
	Motor operated damper		ea					
	Subtotal							
23 3313	DAMPERS (included w/ 231113)							
23 5210	PIPING AND ACCESSORIES							
	DX Tubing, including terminations G/L sliced insulation		lf					
	Refrigerant fill		ea					
	Condensate drain with insulation		lf					
	Tie-in to existing system		ea					
	Subtotal							
23 6210	AIR COOLED AIR CONDITIONING UNITS							
	Equipment: Split AC system; 775 cfm, clg 24 / htg 18 mbh		ea					
	Equipment hook-up: Split AC system		ea					
	Subtotal							
23 7305	FANS							
	EF-1-EMR, 250 cfm		ea					
	Subtotal							
23 8440	SPACE HEATING UNITS							
	Electric unit heater; 11.2 mbh, 3.3 kW, suspended		ea					
	Subtotal							

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Department of Design and Construction

Project: Court Square Courthouse Elevator Modernization and Upgrades
Location: 25-10 Court Square, Queens, NY 11101
Bidder: _____

CONTRACTOR'S BID BREAKDOWN FORM

CONTRACT 1 - GENERAL CONSTRUCTION WORK

DDC ID: CO277ELV2

Sponsor Agency: DCAS

CSI Number	Description	Quantity	Unit	Unit Cost of Material	Total Cost of Material	Unit Cost of Labor	Total Cost of Labor	Total Cost: Materials and Labor
23 8600	ELECTRIC MOTOR CONTROLLERS (included w/ 2300003)							
26 0000	<u>ELECTRICAL</u>							
26 0003	ELECTRICAL SCOPE OF WORK							
	Demolition (disconnect and make safe only):							
	Power to (2) elevators		ls					
	Lighting fixtures, power and FA system devices w/conduit and wire		ls					
	Lighting fixture type "FK-A"		ea					
	Lighting fixture type "FK-A", em		ea					
	Lighting fixture type "FK-B", WP		ea					
	Temporary power and light		ls					
	Cutting/patching		ls					
	Protect existing equipment and devices during construction		ls					
	Miscellaneous electrical work		ls					
	Subtotal							
26 0005	ACCESS DOORS IN GENERAL CONSTRUCTION (included w/ 2600003)							
26 0250	SYSTEMS IDENTIFICATION (included w/ 2600003)							
26 0265	TESTING, ADJUSTING AND BALANCING							
	Tie-in to existing Fire Alarm system/reprogramming/testing		ls					
	Termination/testing - Video Surveillance System		ls					
	Subtotal							
26 0280	EQUIPMENT CONNECTIONS AND COORDINATION							
	Elevator controller (F.B.O.)		ea					
	Elevator control panel (F.B.O.)		ea					

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**Department of
Design and
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CONTRACTOR'S BID BREAKDOWN FORM

CONTRACT 1 - GENERAL CONSTRUCTION WORK

Project: Court Square Courthouse Elevator Modernization and Upgrades

Location: 25-10 Court Square, Queens, NY 11101

Bidder: _____

DDC ID: CO277ELV2

Sponsor Agency: DCAS

CSI Number	Description	Quantity	Unit	Unit Cost of Material	Total Cost of Material	Unit Cost of Labor	Total Cost of Labor	Total Cost: Materials and Labor
	Manual toggle switch		ea					
	Automatic louver damper		ea					
	Electric unit heater		ea					
	AC unit AC-1-EMR		ea					
	Condenser unit ACCU-1-EMR		ea					
	Fan EF-1-EMR		ea					
	Sump pump		ea					
	Elevator (15HP)		ea					
	Subtotal							
26 0290	CEILING, FLOOR AND WALL ELECTRICAL PENETRATION FIRE SEALS							
	Fire watch		ls					
	Cutting/patching		ls					
	Sleeves/firestopping		ls					
	Subtotal							
26 0519	600 VOLT WIRE AND CABLE							
	# 3/0 wire (feeders)		lf					
	# 3 wire (feeders)		lf					
	# 3 wire (mechanical)		lf					
	# 4 wire (mechanical)		lf					
	# 6 wire (feeders)		lf					
	# 8 wire (feeders)		lf					
	# 8 wire (mechanical)		lf					
	# 12 wire (branch circuitry)		lf					
	# 12 wire (lighting)		lf					
	# 12 wire (FA)		lf					
	# 12 wire (mechanical)		lf					
	# 18 wire (video surveillance)		lf					
	Subtotal							

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Project: Court Square Courthouse Elevator Modernization and Upgrades

Location: 25-10 Court Square, Queens, NY 11101

Bidder: _____

CONTRACT 1 - GENERAL CONSTRUCTION WORK

DDC ID: CO277ELV2

Sponsor Agency: DCAS

CSI Number	Description	Quantity	Unit	Unit Cost of Material	Total Cost of Material	Unit Cost of Labor	Total Cost of Labor	Total Cost: Materials and Labor
26 0526	GROUNDING SYSTEM (included w/ 260519)							
26 0533	RACEWAYS AND BOXES							
	Tap box		ea					
	Junction box		ea					
	2" RGS - empty (mechanical)		lf					
	1 1/2" RGS (feeders)		lf					
	1" RGS (mechanical)		lf					
	3/4" RGS (mechanical)		lf					
	3/4" RGS conduit (lighting)		lf					
	3/4" RGS conduit (branch circuitry)		lf					
	3/4" RGS (FA)		lf					
	3/4" RGS (video surveillance)		lf					
	Subtotal							
26 0548	VIBRATION ISOLATION AND SEISMIC RESTRAINTS							
	Vibration Isolation and Seismic Restraints		ls					
	Subtotal							
26 2416	PANELBOARDS							
	Panelboards		ls					
	100 Amp panel		ea					
	Panel mounting assembly		ea					
	Subtotal							
26 2726	WIRING DEVICES							
	GFI duplex receptacle		ea					
	GFI duplex receptacle, WP		ea					
	Single pole light switch		ea					
	Single pole light switch, WP		ea					
	Subtotal							

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CONTRACT 1 - GENERAL CONSTRUCTION WORK

Project: Court Square Courthouse Elevator Modernization and Upgrades

Location: 25-10 Court Square, Queens, NY 11101

Bidder:

DDC ID: CO277ELV2

Sponsor Agency: DCAS

CSI Number	Description	Quantity	Unit	Unit Cost of Material	Total Cost of Material	Unit Cost of Labor	Total Cost of Labor	Total Cost: Materials and Labor
26 2813	FUSES (600 V AND LESS)							
	200 Amp switch		ea					
	Subtotal							
26 2816	DISCONNECT SWITCHES							
	100 Amp NEMA 1 disconnect switch		ea					
	30 Amp NEMA 3R disconnect switch		ea					
	Subtotal							
28 0000	ELECTRONIC SAFETY AND SECURITY							
28 2329	VIDEO SURVEILLANCE REMOTE DEVICES AND SENSORS							
	Controller		ea					
	Ethernet converter		ea					
	Power supply		ea					
	Camera (Bosch flexidome corner 9000 IR)		ea					
	Cable RG 6		lf					
	Cable RG 59		lf					
	FO cable		lf					
	Subtotal							
28 3100	FIRE ALARM AND DETECTION SYSTEM							
	Warden station		ea					
	Smoke detector, elevator recall		ea					
	Smoke detector		ea					
	Combination speaker/strobe		ea					
	Relay		ea					
	Miscellaneous work (support, signage, etc)		ls					
	Subtotal							
	TOTAL CONTRACT 1 - GENERAL CONSTRUCTION WORK							

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**ATTACHMENT 1 - BID INFORMATION
PROJECT ID: CO277ELV2****DESCRIPTION AND LOCATION OF WORK:**

**Court Square Courthouse Elevator Modernization and Upgrades
25-10 Court Square
Queens, NY 11101
E-PIN: 85016B0156 / DDC PIN: 8502016CT0015C**

DOCUMENTS AVAILABLE AT:

Department of Design and Construction, Contract Section
30-30 Thomson Avenue - First Floor, Long Island City, NY 11101

SUBMISSION OF BIDS BEFORE BID OPENING:**TIME TO SUBMIT:**

On or Before: **WEDNESDAY, OCTOBER 12, 2016**

BIDS MUST BE CLOCKED IN PRIOR TO BID OPENING

PLACE TO SUBMIT:

Department of Design and Construction, Contract Section (located behind Security Desk)
30-30 Thomson Avenue - First Floor, Long Island City, NY 11101

BID OPENING:

PLACE OF BID OPENING:	Department of Design and Construction Contract Section 30-30 Thomson Avenue – First Floor Long Island City, NY 11101
DATE AND HOUR:	WEDNESDAY, OCTOBER 12, 2016 @ 2:00 PM
	LATE BIDS WILL NOT BE ACCEPTED

PRE-BID WALK-THRU AND CONFERENCE:

PLACE	Court Square Courthouse 25-10 Court Square Queens, NY 11101
DATE AND HOUR	FRIDAY, SEPTEMBER 23, 2016 AT 10:00AM
MANDATORY OR OPTIONAL	OPTIONAL

BID SECURITY:

Bid Security is required in the amount set forth below; provided, however, bid security is not required if the TOTAL BID PRICE set forth on the Bid Form is less than \$1,000,000.

- (1) Bond in an amount not less than 10% of the TOTAL BID PRICE set forth on the Bid Form, OR
- (2) Certified Check in an amount not less than 2% of the TOTAL BID PRICE set forth on the Bid Form

PERFORMANCE AND PAYMENT SECURITY:

Required for Contracts in the amount of \$1,000,000.00 or more. Performance and Payment Security shall each be in an amount equal to 100% of the Contract Price

AGENCY CONTACT PERSON:

Lorraine Holley, 30-30 Thomson Avenue - First Floor, Long Island City, Queens, NY 11101
Telephone (718) 391-1016 or (718) 391-2601 Fax: (718) 391-2615

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**BID BOOKLET
PART B**

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SAFETY QUESTIONNAIRE

The bidder must include, with its bid, all information requested on this Safety Questionnaire. Failure to provide a completed and signed Safety Questionnaire at the time of bid opening may result in disqualification of the bid as non-responsive.

1. Bidder Information:

Company Name: _____

DDC Project Number: _____

Company Size: _____ Ten (10) employees or less
 _____ Greater than ten (10) employees

Company has previously worked for DDC _____ YES _____ NO

2. Type(s) of Construction Work

TYPE OF WORK	LAST 3 YEARS	THIS PROJECT
General Building Construction	_____	_____
Residential Building Construction	_____	_____
Nonresidential Building Construction	_____	_____
Heavy Construction, except building	_____	_____
Highway and Street Construction	_____	_____
Heavy Construction, except highways	_____	_____
Plumbing, Heating, HVAC	_____	_____
Painting and Paper Hanging	_____	_____
Electrical Work	_____	_____
Masonry, Stonework and Plastering	_____	_____
Carpentry and Floor Work	_____	_____
Roofing, Siding, and Sheet Metal	_____	_____
Concrete Work	_____	_____
Specialty Trade Contracting	_____	_____
Asbestos Abatement	_____	_____
Other (specify)	_____	_____

3. Experience Modification Rate:

The Experience Modification Rate (EMR) is a rating generated by the National Council of Compensation Insurance (NCCI). This rating is used to determine the contractor's premium for worker's compensation insurance. The contractor may obtain its EMR by contacting its insurance broker or the NCCI. If the contractor cannot obtain its EMR, it must submit a written explanation as to why.

The Contractor must indicate its Intrastate and Interstate EMR for the past three years. [Note: For contractors with less than three years of experience, the EMR will be considered to be 1.00].

YEAR	<u>INTRASTATE</u> RATE	<u>INTERSTATE</u> RATE
_____	_____	_____
_____	_____	_____
_____	_____	_____

If the Intrastate and/or Interstate EMR for any of the past three years is greater than 1.00, the contractor must attach, to this questionnaire, a written explanation for the rating and identify what corrective action was taken to correct the situation resulting in that rating.

4. OSHA Information:

- _____ YES _____ NO Contractor has received a willful violation issued by OSHA or New York City Department of Buildings (NYCDOB) within the last three years.
- _____ YES _____ NO Contractor has had an incident requiring OSHA notification within 8 hours (all work-related fatalities) or an incident requiring OSHA notification within 24 hours (all work-related inpatient hospitalizations, all amputations and all losses of an eye).

The Occupational Safety and Health Act (OSHA) of 1970 requires employers with ten or more employees, on a yearly basis to complete and maintain on file the form entitled "Log of Work-related Injuries and Illnesses". This form is commonly referred to as the OSHA 300 Log (OSHA 200 Log for 2001 and earlier).

The OSHA 300 Log must be submitted for the last three years for contractors with more than ten employees.

The Contractor must indicate the total number of hours worked by its employees, as reflected in payroll records for the past three years.

The contractor must submit the Incident Rate for Lost Time Injuries (the Incident Rate) for the past three years. The Incident Rate is calculated in accordance with the formula set forth below. For each given year, the total number of incidents is the total number of non-fatal injuries and illnesses reported on the OSHA 300 Log. The 200,000 hours represents the equivalent of 100 employees working forty hours a week, fifty weeks per year.

$$\text{Incident Rate} = \frac{\text{Total Number of Incidents X 200,000}}{\text{Total Number of Hours Worked by Employees}}$$

YEAR	TOTAL NUMBERS OF HOURS WORKED BY EMPLOYEES	INCIDENT RATE
------	---	---------------

_____	_____	_____
_____	_____	_____
_____	_____	_____

If the contractor's Incident Rate for any of the past three years is one point higher than the Incident Rate for the type of construction it performs (listed below), the contractor must attach, to this questionnaire, a written explanation for the relatively high rate.

General Building Construction	8.5
Residential Building Construction	7.0
Nonresidential Building Construction	10.2
Heavy Construction, except building	8.7
Highway and Street Construction	9.7
Heavy Construction, except highways	8.3
Plumbing, Heating, HVAC	11.3
Painting and Paper Hanging	6.9
Electrical Work	9.5
Masonry, Stonework and Plastering	10.5
Carpentry and Floor Work	12.2
Roofing, Siding, and Sheet Metal	10.3
Concrete Work	8.6
Specialty Trade Contracting	8.6

5. Safety Performance on Previous DDC Project(s)

___ YES ___ NO Contractor previously audited by the DDC Office of Site Safety.

DDC Project Number(s): _____, _____, _____

___ YES ___ NO Accident on previous DDC Project(s).

DDC Project Number(s): _____, _____, _____

___ YES ___ NO Fatality or Life-altering Injury on DDC Project(s) within the last three years.
[Examples of a life-altering injury include loss of limb, loss of a sense (e.g., sight, hearing), or loss of neurological function].

DDC Project Number(s): _____, _____, _____

Date: _____

By: _____
(Signature of Owner, Partner, Corporate Officer)

Title: _____

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Pre-Award Process

The bidder is advised that as part of the pre-award review of its bid, it may be required to submit the information described in Sections (A) through (D) below. If required, the bidder must submit such information within five (5) business days following receipt of notification from DDC that it is among the low bidders. Such notification from DDC will be by facsimile or in writing and will specify the types of information which must be submitted.

In the event the bidder fails to submit the required information within the specified time frame, its bid may be rejected as nonresponsive.

- (A) **Project Reference Form:** If required, the bidder must complete and submit the Project Reference Form set forth on pages 28 through 30 of this Bid Booklet. The Project Reference Form consists of 3 parts: (1) Similar Contracts Completed by the Bidder, (2) Contracts Currently Under Construction by the Bidder, and (3) Pending Contracts Not Yet Started by the Bidder.
- (B) **Copy of License:** If required, the bidder must submit a copy of the license under which the bidder will be performing the work. Such license must clearly show the following: (1) Name of the Licensee, (2) License Number, and (3) Expiration date of the License. A copy of the license will be required from bidders for the following contracts: Plumbing Work, Electrical Work and Asbestos Abatement.
- (C) **Financial Information:** If required, the bidder must submit the financial information described below:

- (1) **Audited Financial Statements:** Financial statements (Balance Sheet and Income Statement) of the entity submitting the bid, as audited by an independent auditor licensed to practice as a certified public accountant (CPA). Audited financial statements for the three most recent fiscal years must be submitted. Each such financial statement must include the auditor's standard report.

If the bidder does not have audited financial statements, it must submit an affidavit attesting to the fact that the bidder does not have such statements. In addition, the bidder must submit the following documentation covering the three most recent fiscal years: signed federal tax returns, unaudited financial statements, and a "certified review letter" from a certified public accountant (CPA) verifying the unaudited financial statements.

Unless the most recent audited or unaudited financial statement was issued within ninety (90) days, the bidder must submit interim financial information that includes data on financial position and results of operation (income data) for the current fiscal year. Such information may be summarized on a monthly or quarterly basis or at other intervals.

- (2) **Schedule of Aged Accounts Receivable,** including portion due within ninety (90) days.

- (D) **Project Specific Information:** If required, the bidder must submit the project specific information described below:

- (1) Statement indicating the number of years of experience the bidder has had and in what type of construction.
- (2) Resumes of all key personnel to be involved in the project, including the proposed project superintendent.
- (3) List of significant pieces of equipment expected to be used for the contract, and whether such equipment is owned or leased.

- (4) Description of work expected to be subcontracted, and to what firms, if known.
- (5) List of key material suppliers.
- (6) Preliminary bar chart time schedule
- (7) Contractor's expected means of financing the project. This should be based on the assumption that the contractor is required to finance 2X average monthly billings throughout the contract period.
- (8) Any other issues the contractor sees as impacting his ability to complete the project according to the contract.

In addition to the information described in Sections (A) through (D) above, the bidder shall submit such additional information as the Commissioner may require, including without limitation, an explanation or justification for specific unit price items.

The bidder is further advised that it may be required to attend a pre-award meeting with DDC representatives. If such a meeting is convened, the bidder will be advised as to any additional material to be provided.

A. PROJECT REFERENCES – SIMILAR CONTRACTS COMPLETED BY THE BIDDER

List all contracts substantially completed within the last 4 years similar to the contract being awarded, up to a maximum of 10, in descending order of date of substantial completion.

Project & Location	Contract Type	Contract Amount (\$000)	Date Completed	Owner Reference & Tel. No.	Architect/Engineer Reference & Tel. No. if different from owner

B. PROJECT REFERENCES – CONTRACTS CURRENTLY UNDER CONSTRUCTION BY THE BIDDER

List all contracts currently under construction even if they are not similar to the contract being awarded.

Project & Location	Contract Type	Contract Amount (\$000)	Subcontracted to Others (\$000)	Uncompleted Portion (\$000)	Date Scheduled to Complete	Owner Reference & Tel. No.	Architect/Engineer Reference & Tel. No. if different from owner

C. PROJECT REFERENCES – PENDING CONTRACTS NOT YET STARTED BY THE BIDDER

List all contracts awarded to or won by the bidder but not yet started.

Project & Location	Contract Type	Contract Amount (\$000)	Date Scheduled to Start	Owner Reference & Tel. No.	Architect/Engineer Reference & Tel. No. if different from owner

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**OFFICE OF THE MAYOR
BUREAU OF LABOR SERVICES
CONTRACT CERTIFICATE**

To be completed if the contract is less than \$1,000,000

Contractor: _____

Address: _____

Telephone Number: _____

Name and Title of Signatory: _____

Contracting Agency or Owner: _____

Project Number: _____

Proposed Contract Amount: _____

Description and Address of Proposed Contract: _____

Names of Subcontractors in the amount of 750,000 or more on this contract (if not known at this time, so state indicating that trades will be subcontracted):

I, (fill in name of person signing) _____,
hereby affirm that I am authorized by the above-named contractor to certify that said contractor's
proposed contract with the above-named owner or city agency is less than \$1,000,000. This affirmation
is made in accordance with Executive Order No. 50 (1980) as amended and its implementing regulations.

Date

Signature

**WILLFUL OR FRAUDULENT FALSIFICATION OF ANY DATA OR INFORMATION
SUBMITTED HERewith MAY RESULT IN THE TERMINATION OF ANY CONTRACT BETWEEN
THE CITY AND THE BIDDER OR CONTRACTOR AND BAR THE BIDDER OR CONTRACTOR FROM
PARTICIPATION IN ANY CITY CONTRACT FOR A PERIOD OF UP TO THREE YEARS. FURTHER,
SUCH FALSIFICATION MAY RESULT IN CRIMINAL PROSECUTION.**

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VENDEX COMPLIANCE

(A) **Vendex Fees:** Pursuant to Procurement Policy Board Rule 2-08(f)(2), the contractor will be charged a fee for the administration of the VENDEX system, including the Vendor Name Check process, if a Vendor Name Check review is required to be conducted by the Department of Investigation. The contractor shall also be required to pay the applicable required fees for any of its subcontractors for which Vendor Name Check reviews are required. The fee(s) will be deducted from payments made to the contractor under the contract. For contracts with an estimated value of less than or equal to \$1,000,000, the fee will be \$175 per Vendor Name Check review. For contracts with an estimated value of greater than \$1,000,000, the fee will be \$350 per Vendor Name Check review.

(B) **Confirmation of Vendex Compliance:** The Bidder shall submit this Confirmation of Vendex Compliance to the Department of Design and Construction, Contracts Section, 30-30 Thomson Avenue – First Floor, Long Island City, NY 11101.

Bid Information: The Bidder shall complete the bid information set forth below.

Name of Bidder: _____
Bidder's Address: _____
Bidder's Telephone Number: _____
Bidder's Fax Number: _____
Date of Bid Opening: _____
Project ID: _____

Vendex Compliance: To demonstrate compliance with Vendex requirements, the Bidder shall complete either Section (1) or Section (2) below, whichever applies.

(1) **Submission of Vendex Questionnaires to MOCS:** By signing in the space provided below, the Bidder certifies that as of the date specified below, the Bidder has submitted Vendex Questionnaires to the Mayor's Office of Contract Services, Attn: VENDEX, 253 Broadway, 9th Floor, New York, New York 10007.

Date of Submission: _____

By: _____
(Signature of Partner or corporate officer)

Print Name: _____

(2) **Submission of Certification of No Change to DDC:** By signing in the space provided below, the Bidder certifies that it has read the instructions in a "Vendor's Guide to Vendex" and that such instructions do not require the Bidder to submit Vendex Questionnaires. The Bidder has completed **TWO ORIGINALS** of the Certification of No Change set forth on the next page of this Bid Booklet.

By: _____
(Signature of Partner or corporate officer)

Print Name: _____

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DIRECTIONS: Please execute two originals (both with original signature).
Please forward directly to the agency (not M.O.C.S.).

Certificate of No Change Form



- Please submit two completed forms. Copies will not be accepted.
- Please send both copies to the agency that requested it, unless you are advised to send it directly to the Mayor's Office of Contract Services (MOCS).
- A materially false statement willfully or fraudulently made in connection with this certification, and/or the failure to conduct appropriate due diligence in verifying the information that is the subject of this certification, may result in rendering the submitting entity non-responsible for the purpose of contract award.
- A materially false statement willfully or fraudulently made in connection with this certification may subject the person making the false statement to criminal charges

I, _____, being duly sworn, state that I have read
Enter Your Name

and understand all the items contained in the vendor questionnaire and any submission of change as identified on page one of this form and certify that as of this date, these items have not changed. I further certify that, to the best of my knowledge, information and belief, those answers are full, complete, and accurate; and that, to the best of my knowledge, information, and belief, those answers continue to be full, complete, and accurate.

In addition, I further certify on behalf of the submitting vendor that the information contained in the principal questionnaire(s) and any submission of change identified on page two of this form have not changed and have been verified and continue, to the best of my knowledge, to be full, complete and accurate.

I understand that the City of New York will rely on the information supplied in this certification as additional inducement to enter into a contract with the submitting entity.

Vendor Questionnaire *This section is required.*

This refers to the vendor questionnaire(s) submitted for the vendor doing business with the City.

Name of Submitting Entity: _____

Vendor's Address: _____

Vendor's EIN or TIN: _____ Requesting Agency: _____

Are you submitting this Certification as a parent? (Please circle one) Yes No

Signature date on the last full vendor questionnaire signed for the submitting vendor: _____

Signature date on change submission for the submitting vendor: _____

Principal Questionnaire

This section refers to the most recent principal questionnaire submissions.



Principal Name	Date of signature on last full Principal Questionnaire	Date(s) of signature on submission of change
1		
2		
3		
4		
5		
6		

☐ Check if additional changes were submitted and attach a document with the date of additional submissions.

Certification *This section is required.*

This form must be signed and notarized. Please complete this twice. Copies will not be accepted.

Certified By:

Name (Print)

Title

Name of Submitting Entity

Signature

Date

Notarized By:

Notary Public

County License Issued

License Number

Sworn to before me on: _____
Date

DIRECTIONS: Please execute two originals (both with original signature).
Please forward directly to the agency (not M.O.C.S.).

Certificate of No Change Form



- Please submit two completed forms. Copies will not be accepted.
- Please send both copies to the agency that requested it, unless you are advised to send it directly to the Mayor's Office of Contract Services (MOCS).
- A materially false statement willfully or fraudulently made in connection with this certification, and/or the failure to conduct appropriate due diligence in verifying the information that is the subject of this certification, may result in rendering the submitting entity non-responsible for the purpose of contract award.
- A materially false statement willfully or fraudulently made in connection with this certification may subject the person making the false statement to criminal charges

I, _____, being duly sworn, state that I have read
Enter Your Name

and understand all the items contained in the vendor questionnaire and any submission of change as identified on page one of this form and certify that as of this date, these items have not changed. I further certify that, to the best of my knowledge, information and belief, those answers are full, complete, and accurate; and that, to the best of my knowledge, information, and belief, those answers continue to be full, complete, and accurate.

In addition, I further certify on behalf of the submitting vendor that the information contained in the principal questionnaire(s) and any submission of change identified on page two of this form have not changed and have been verified and continue, to the best of my knowledge, to be full, complete and accurate.

I understand that the City of New York will rely on the information supplied in this certification as additional inducement to enter into a contract with the submitting entity.

Vendor Questionnaire *This section is required.*

This refers to the vendor questionnaire(s) submitted for the vendor doing business with the City.

Name of Submitting Entity: _____

Vendor's Address: _____

Vendor's EIN or TIN: _____ Requesting Agency: _____

Are you submitting this Certification as a parent? (Please circle one) Yes No

Signature date on the last full vendor questionnaire signed for the submitting vendor: _____

Signature date on change submission for the submitting vendor: _____

Principal Questionnaire

This section refers to the most recent principal questionnaire submissions.



Principal Name	Date of signature on last full Principal Questionnaire	Date(s) of signature on submission of change
1		
2		
3		
4		
5		
6		

☐ Check if additional changes were submitted and attach a document with the date of additional submissions.

Certification *This section is required.*

This form must be signed and notarized. Please complete this twice. Copies will not be accepted.

Certified By:

Name (Print)

Title

Name of Submitting Entity

Signature

Date

Notarized By:

Notary Public

County License Issued

License Number

Sworn to before me on: _____
Date

IRAN DIVESTMENT ACT COMPLIANCE RIDER
FOR NEW YORK CITY CONTRACTORS

The Iran Divestment Act of 2012, effective as of April 12, 2012, is codified at State Finance Law ("SFL") §165-a and General Municipal Law ("GML") §103-g. The Iran Divestment Act, with certain exceptions, prohibits municipalities, including the City, from entering into contracts with persons engaged in investment activities in the energy sector of Iran. Pursuant to the terms set forth in SFL §165-a and GML §103-g, a person engages in investment activities in the energy sector of Iran if:

- (a) The person provides goods or services of twenty million dollars or more in the energy sector of Iran, including a person that provides oil or liquefied natural gas tankers, or products used to construct or maintain pipelines used to transport oil or liquefied natural gas, for the energy sector of Iran; or
- (b) The person is a financial institution that extends twenty million dollars or more in credit to another person, for forty-five days or more, if that person will use the credit to provide goods or services in the energy sector in Iran and is identified on a list created pursuant to paragraph (b) of subdivision three of Section 165-a of the State Finance Law and maintained by the Commissioner of the Office of General Services.

A bid or proposal shall not be considered for award nor shall any award be made where the bidder or proposer fails to submit a signed and verified bidder's certification.

Each bidder or proposer must certify that it is not on the list of entities engaged in investment activities in Iran created pursuant to paragraph (b) of subdivision 3 of Section 165-a of the State Finance Law. In any case where the bidder or proposer cannot certify that they are not on such list, the bidder or proposer shall so state and shall furnish with the bid or proposal a signed statement which sets forth in detail the reasons why such statement cannot be made. The City of New York may award a bid to a bidder who cannot make the certification on a case by case basis if:

- (1) The investment activities in Iran were made before the effective date of this section (i.e., April 12, 2012), the investment activities in Iran have not been expanded or renewed after the effective date of this section and the person has adopted, publicized and is implementing a formal plan to cease the investment activities in Iran and to refrain from engaging in any new investments in Iran; or
- (2) The City makes a determination that the goods or services are necessary for the City to perform its functions and that, absent such an exemption, the City would be unable to obtain the goods or services for which the contract is offered. Such determination shall be made in writing and shall be a public document.

**BIDDER'S CERTIFICATION OF COMPLIANCE WITH
IRAN DIVESTMENT ACT**

Pursuant to General Municipal Law §103-g, which generally prohibits the City from entering into contracts with persons engaged in investment activities in the energy sector of Iran, the bidder/proposer submits the following certification:

[Please Check One]

BIDDER'S CERTIFICATION

- ☐ By submission of this bid or proposal, each bidder/proposer and each person signing on behalf of any bidder/proposer certifies, and in the case of a joint bid each party thereto certifies as to its own organization, under penalty of perjury, that to the best of its knowledge and belief, that each bidder/proposer is not on the list created pursuant to paragraph (b) of subdivision 3 of Section 165-a of the State Finance Law.
- ☐ I am unable to certify that my name and the name of the bidder/proposer does not appear on the list created pursuant to paragraph (b) of subdivision 3 of Section 165-a of the State Finance Law. I have attached a signed statement setting forth in detail why I cannot so certify.

Dated: _____, New York
_____, 20__

SIGNATURE

PRINTED NAME

TITLE

Sworn to before me this
____ day of ____, 20__

Notary Public

Dated:

CITY OF NEW YORK

DIVISION OF LABOR SERVICES

CONSTRUCTION EMPLOYMENT REPORT

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The City of New York Department of Small Business Services
Division of Labor Services Contract Compliance Unit
110 William Street, New York, New York 10038
Phone: (212) 513 - 6323
Fax: (212) 618-8879

CONSTRUCTION EMPLOYMENT REPORT

GENERAL INFORMATION

1. Your contractual relationship in this contract is: Prime contractor____ Subcontractor____
- 1a. Are M/WBE goals attached to this project? Yes ____ No ____
2. Please check one of the following if your firm would like information on how to certify with the City of New York as a:
- ____ Minority Owned Business Enterprise ____ Locally Based Business Enterprise
____ Women Owned Business Enterprise ____ Emerging Business Enterprise
____ Disadvantaged Business Enterprise
- 2a. If you are certified as an **MBE, WBE, LBE, EBE** or **DBE**, what city/state agency are you certified with? _____ Are you DBE certified? Yes ____ No ____
3. Please indicate if you would like assistance from SBS in identifying certified M/WBEs for contracting opportunities: Yes ____ No ____
4. Is this project subject to a project labor agreement? Yes ____ No ____
5. Are you a Union contractor? Yes ____ No ____ If yes, please list which local(s) you affiliated with _____
6. Are you a Veteran owned company? Yes ____ No ____

PART I: CONTRACTOR/SUBCONTRACTOR INFORMATION

7. _____
Employer Identification Number or Federal Tax I.D. Email Address
8. _____
Company Name
9. _____
Company Address and Zip Code
10. _____
Chief Operating Officer Telephone Number
11. _____
Designated Equal Opportunity Compliance Officer Telephone Number
(If same as Item #10, write "same")
12. _____
Name of Prime Contractor and Contact Person
(If same as Item #8, write "same")

13. Number of employees in your company: _____

14. Contract information:

(a) _____ (b) _____
Contracting Agency (City Agency) Contract Amount

(c) _____ (d) _____
Procurement Identification Number (PIN) Contract Registration Number (CT#)

(e) _____ (f) _____
Projected Commencement Date Projected Completion Date

(g) Description and location of proposed contract:

15. Has your firm been reviewed by the Division of Labor Services (DLS) within the past 36 months and issued a Certificate of Approval? Yes___ No___

If yes, attach a copy of certificate.

16. Has DLS within the past month reviewed an Employment Report submission for your company and issued a Conditional Certificate of Approval? Yes___ No___

If yes, attach a copy of certificate.

NOTE: DLS WILL NOT ISSUE A CONTINUED CERTIFICATE OF APPROVAL IN CONNECTION WITH THIS CONTRACT UNLESS THE REQUIRED CORRECTIVE ACTIONS IN PRIOR CONDITIONAL CERTIFICATES OF APPROVAL HAVE BEEN TAKEN.

17. Has an Employment Report already been submitted for a different contract (not covered by this Employment Report) for which you have not yet received compliance certificate?

Yes___ No___ If yes,

Date submitted: _____

Agency to which submitted: _____

Name of Agency Person: _____

Contract No: _____

Telephone: _____

18. Has your company in the past 36 months been audited by the United States Department of Labor, Office of Federal Contract Compliance Programs (OFCCP)? Yes___ No___

If yes,

(a) Name and address of OFCCP office.

(b) Was a Certificate of Equal Employment Compliance issued within the past 36 months?

Yes___ No___

If yes, attach a copy of such certificate.

(c) Were any corrective actions required or agreed to? Yes___ No___

If yes, attach a copy of such requirements or agreements.

(d) Were any deficiencies found? Yes___ No___

If yes, attach a copy of such findings.

19. Is your company or its affiliates a member or members of an employers' trade association which is responsible for negotiating collective bargaining agreements (CBA) which affect construction site hiring? Yes___ No___

If yes, attach a list of such associations and all applicable CBA's.

PART II: DOCUMENTS REQUIRED

20. For the following policies or practices, attach the relevant documents (e.g., printed booklets, brochures, manuals, memoranda, etc.). If the policy(ies) are unwritten, attach a full explanation of the practices. See instructions.

- ___ (a) Health benefit coverage/description(s) for all management, nonunion and union employees (whether company or union administered)
- ___ (b) Disability, life, other insurance coverage/description
- ___ (c) Employee Policy/Handbook
- ___ (d) Personnel Policy/Manual
- ___ (e) Supervisor's Policy/Manual
- ___ (f) Pension plan or 401k coverage/description for all management, nonunion and union employees, whether company or union administered
- ___ (g) Collective bargaining agreement(s).
- ___ (h) Employment Application(s)
- ___ (i) Employee evaluation policy/form(s).
- ___ (j) Does your firm have medical and/or non-medical (i.e. education, military, personal, pregnancy, child care) leave policy?

21. To comply with the Immigration Reform and Control Act of 1986 when and of whom does your firm require the completion of an I-9 Form?

- | | |
|--|--------------|
| (a) Prior to job offer | Yes___ No___ |
| (b) After a conditional job offer | Yes___ No___ |
| (c) After a job offer | Yes___ No___ |
| (d) Within the first three days on the job | Yes___ No___ |
| (e) To some applicants | Yes___ No___ |
| (f) To all applicants | Yes___ No___ |
| (g) To some employees | Yes___ No___ |
| (h) To all employees | Yes___ No___ |

22. Explain where and how completed I-9 Forms, with their supportive documentation, are maintained and made accessible.

23. Does your firm or any of its collective bargaining agreements require job applicants to take a medical examination? Yes___ No___

If yes, is the medical examination given:

- | | |
|-----------------------------------|--------------|
| (a) Prior to a job offer | Yes___ No___ |
| (b) After a conditional job offer | Yes___ No___ |
| (c) After a job offer | Yes___ No___ |
| (d) To all applicants | Yes___ No___ |
| (e) Only to some applicants | Yes___ No___ |

If yes, list for which applicants below and attach copies of all medical examination or questionnaire forms and instructions utilized for these examinations.

24. Do you have a written equal employment opportunity (EEO) policy? Yes___ No___

If yes, list the document(s) and page number(s) where these written policies are located.

25. Does the company have a current affirmative action plan(s) (AAP)

- ___ Minorities and Women
- ___ Individuals with handicaps
- ___ Other. Please specify _____

26. Does your firm or collective bargaining agreement(s) have an internal grievance procedure with respect to EEO complaints? Yes___ No___

If yes, please attach a copy of this policy.

If no, attach a report detailing your firm's unwritten procedure for handling EEO complaints.

27. Has any employee, within the past three years, filed a complaint pursuant to an internal grievance procedure or with any official of your firm with respect to equal employment opportunity? Yes___ No___

If yes, attach an internal complaint log. See instructions.

28. Has your firm, within the past three years, been named as a defendant (or respondent) in any administrative or judicial action where the complainant (plaintiff) alleged violation of any anti-discrimination or affirmative action laws? Yes___ No___

If yes, attach a log. See instructions.

29. Are there any jobs for which there are physical qualifications? Yes___ No___

If yes, list the job(s), submit a job description and state the reason(s) for the qualification(s).

30. Are there any jobs for which there are age, race, color, national origin, sex, creed, disability, marital status, sexual orientation, or citizenship qualifications? Yes___ No___

If yes, list the job(s), submit a job description and state the reason(s) for the qualification(s).

SIGNATURE PAGE

I, (print name of authorized official signing) _____ hereby certify that the information submitted herewith is true and complete to the best of my knowledge and belief and submitted with the understanding that compliance with New York City's equal employment requirements, as contained in Chapter 56 of the City Charter, Executive Order No. 50 (1980), as amended, and the implementing Rules and Regulations, is a contractual obligation. I also agree on behalf of the company to submit a certified copy of payroll records to the Division of Labor Services on a monthly basis.

Contractor's Name

Name of person who prepared this Employment Report

Title

Name of official authorized to sign on behalf of the contractor

Title

Telephone Number

Signature of authorized official

Date

If contractors are found to be underutilizing minorities and females in any given trade based on Chapter 56 Section 3H, the Division of Labor Services reserves the right to request the contractor's workforce data and to implement an employment program.

Contractors who fail to comply with the above mentioned requirements or are found to be in noncompliance may be subject to the withholding of final payment.

Willful or fraudulent falsifications of any data or information submitted herewith may result in the termination of the contract between the City and the bidder or contractor and in disapproval of future contracts for a period of up to five years. Further, such falsification may result in civil and/or criminal prosecution.

To the extent permitted by law and consistent with the proper discharge of DLS' responsibilities under Charter Chapter 56 of the City Charter and Executive Order No. 50 (1980) and the implementing Rules and Regulations, all information provided by a contractor to DLS shall be confidential.

Only original signatures accepted.

Sworn to before me this _____ day of _____ 20 _____

Notary Public

Authorized Signature

Date

FORM A. CONTRACT BID INFORMATION: USE OF SUBCONTRACTORS/TRADES

1. Do you plan to subcontract work on this contract? Yes ☐ No ☐
2. If yes, complete the chart below.

NOTE: All proposed subcontractors with a subcontract in excess of \$750,000 must complete an Employment Report for review and approval before the contract may be awarded and work commences.

SUBCONTRACTOR'S NAME*	OWNERSHIP (ENTER APPROPRIATE CODE LETTERS BELOW)	WORK TO BE PERFORMED BY SUBCONTRACTOR	TRADE PROJECTED FOR USE BY SUBCONTRACTOR	PROJECTED DOLLAR VALUE OF SUBCONTRACT

***If subcontractor is presently unknown, please enter the trade (craft name).**

OWNERSHIP CODES

- W: White
- B: Black
- H: Hispanic
- A: Asian
- N: Native American
- F: Female

FORM B: PROJECTED WORKFORCE

TRADE CLASSIFICATION CODES

(J) Journeylevel Workers
(H) Helper
(TOT) Total by Column

For each trade to be engaged by your company for this project, enter the projected workforce for Males and Females by trade classification on the charts below.

Trade:

Union Affiliation, if applicable

Total (Col. #1-10):

Total Minority, Male & Female
(Col. #2,3,4,5,7,8,9, & 10):

Total Female
(Col. #6 - 10):

MALES

(1) White Non Hisp.	(2) Black Non Hisp.	(3) Hisp.	(4) Asian	(5) Native Amer.
J				
H				
A				
TRN				
TOT				

FEMALES

(6) White Non Hisp.	(7) Black Non Hisp.	(8) Hisp.	(9) Asian	(10) Native Amer.

What are the recruitment sources for you projected hires (i.e., unions, government employment office, job tap center, community outreach)?

FORM B: PROJECTED WORKFORCE

Trade:

Union Affiliation, if applicable

Total (Col. #1-10):

Total Minority, Male & Female
(Col. #2,3,4,5,7,8,9, & 10):

Total Female
(Col. #6 – 10):

MALES

(1) White Non Hisp.	(2) Black Non Hisp.	(3) Hisp.	(4) Asian	(5) Native Amer.

J

H

A

TRN

TOT

FEMALES

(6) White Non Hisp.	(7) Black Non Hisp.	(8) Hisp.	(9) Asian	(10) Native Amer.

What are the recruitment sources for you projected hires (i.e., unions, government employment office, job tap center, community outreach)?

FORM C: CURRENT WORKFORCE

TRADE CLASSIFICATION CODES

(J) Journeylevel Workers
(H) Helper
(TOT) Total by Column

For each trade currently engaged by your company for all work performed in New York City, enter the current workforce for Males and Females by trade classification on the charts below.

Trade:

Union Affiliation, if applicable

Total (Col. #1-10):

Total Minority, Male & Female
(Col. #2,3,4,5,7,8,9, & 10):

Total Female
(Col. #6 - 10):

MALES

(1) White Non Hisp.	(2) Black Non Hisp.	(3) Hisp.	(4) Asian	(5) Native Amer.
J				
H				
A				
TRN				
TOT				

FEMALES

(6) White Non Hisp.	(7) Black Non Hisp.	(8) Hisp.	(9) Asian	(10) Native Amer.

What are the recruitment sources for you projected hires (i.e., unions, government employment office, job tap center, community outreach)?

FORM C: CURRENT WORKFORCE

Trade:

Union Affiliation, if applicable

Total (Col. #1-10):

Total Minority, Male & Female
(Col. #2,3,4,5,7,8,9, & 10):

Total Female
(Col. #6 - 10):

MALES

(1) White Non Hisp.	(2) Black Non Hisp.	(3) Hisp.	(4) Asian	(5) Native Amer.
J				
H				
A				
TRN				
TOT				

FEMALES

(6) White Non Hisp.	(7) Black Non Hisp.	(8) Hisp.	(9) Asian	(10) Native Amer.

What are the recruitment sources for you projected hires (i.e., unions, government employment office, job tap center, community outreach)?

FMS ID: CO277ELV2



Department of
Design and
Construction

**THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF PUBLIC BUILDINGS**

30-30 THOMSON AVENUE LONG ISLAND CITY, NEW YORK 11101-3045
TELEPHONE (718) 391-1000 WEBSITE www.nyc.gov/buildnyc

Contract for Furnishing all Labor and Material Necessary and Required for:

CONTRACT NO. 1 GENERAL CONSTRUCTION WORK

Court Square Courthouse Elevator Modernization and Upgrades

LOCATION: 25-10 Court Square
BOROUGH: Queens 11101
CITY OF NEW YORK

Contractor _____

Dated _____, 20____

Entered in the Comptroller's Office _____

First Assistant Bookkeeper _____

Dated _____, 20____





Department of
Design and
Construction

PROJECT ID:

CO277ELV2

**THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF PUBLIC BUILDINGS**

30-30 THOMSON AVENUE
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VOLUME 2 OF 3

**PROJECT LABOR AGREEMENT
INFORMATION FOR BIDDERS
CONTRACT
PERFORMANCE AND PAYMENT BONDS
SCHEDULE OF PREVAILING WAGES
GENERAL CONDITIONS**

FOR FURNISHING ALL LABOR AND MATERIALS
NECESSARY AND REQUIRED FOR THE PROJECT

**Court Square Courthouse Elevator
Modernization and Upgrades**

LOCATION:
BOROUGH:
CITY OF NEW YORK

25-10 Court Square
Queens 11101

CONTRACT NO. 1

GENERAL CONSTRUCTION WORK

DCAS

WSP Group

Date:

June 28, 2016





**Department of
Design and
Construction**

**THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF PUBLIC BUILDINGS**

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2015 Project Labor Agreement

NOTICE: THIS CONTRACT IS SUBJECT TO A NEW PROJECT LABOR AGREEMENT EXECUTED IN 2015

This contract is subject to the attached Project Labor Agreement ("PLA") entered into between the City and the Building and Construction Trades Council of Greater New York ("BCTC") affiliated Local Unions. By submitting a bid, the Contractor agrees that if awarded the Contract the PLA is binding on the Contractor and all subcontractors of all tiers. The bidder to be awarded the contract will be required to execute the attached Letter of Assent prior to award. Contractor shall include in any subcontract a requirement that the subcontractor, and sub-subcontractors of all tiers, become signatory to and bound to the PLA with respect to the subcontracted work. Contractor will also be required to have all subcontractors of all tiers execute the attached Letter of Assent prior to such subcontractors performing any work on the Project. Bidders are advised that the City of New York and City agencies have entered into multiple PLAs. The terms of each PLA, while similar, are not identical. All bidders should carefully read the entire PLA that governs this Contract.

In addition, please note that there are significant revisions between the 2015 PLA attached to this bid and the prior Citywide Renovation PLA. The Contractor is urged to review the entire PLA. Significant changes include:

- **Micro Work Orders:** For JOCS and Requirements contracts, Task Orders or Work Orders that do not exceed \$10,000 are not subject to the PLA. See PLA Article 3, Section 1.
- **On Call Contracts:** Provisions have been added regarding the referral of workers for on call contracts where Contractors are required to respond on an expedited basis. See PLA Article 4, Section 8.
- **Grievances:** The grievance procedure governing disputes under the PLA has been clarified. See PLA Article 9, Section 1.
- **Delinquent Contractors:** Contractors and Subcontractors who do not make required payments to union funds on a timely basis are subject to requirements to submit cancelled checks or another form of proof of payment in addition to certified payroll reports when requesting payment. See PLA Article 11, Section 2.
- **Payment to Union Funds for Non-Union Workers:** Non-union Contractors with bona fide private benefit plans that satisfy the requirements of Labor Law 220 will not be required to pay into union benefit funds for “core” non-union employees (working pursuant to Article 4, Section 2 of the PLA) who are already covered under such bona fide private benefit plans. See PLA Article 11, Section 2.
- **Veterans Day:** Veterans Day has been added to the list of standard holidays. See Article 12, Section 4.
- **Reporting Pay for Weather Events:** The usual reporting pay requirement of two hours for employees who report to their work location pursuant to their regular schedule does not apply when the National Weather Service issues a Weather Advisory and the Contractor speaks to the employee at least four hours before their shift starting time. See Article 12, Section 6.

To the extent that the terms of the PLA conflict with any other terms of the invitation for bids, including the Standard Construction Contract, the terms of the PLA shall govern. For example, the PLA section that authorizes the scheduling of a four-day week, ten hours per day on straight time at the commencement of the job, PLA Article 12, section 1, overrides the Standard Construction Contract's provision concerning a five-day work week with a maximum of eight hours in a day, Standard Construction Contract Article 37.2.1. Where, however, the invitation for bids, including the Standard Construction Contract, requires the approval of the City/Department, the PLA does not supersede or eliminate that requirement.

In addition to the various provisions regarding work rules, Contractors should take special note of the requirement that Contractors and Subcontractors make payments to designated employee benefit funds. See PLA Article 11, Section 2. The PLA also contains provisions for what occurs when a Contractor or a subcontractor fails to make required payments into the benefit funds, including potentially the direct payment by the City to the benefit fund of monies owed and corresponding withholding of payments to the Contractor. See PLA Article 11, Section 2. The City strongly advises Contractors to read these provisions carefully and to include appropriate provisions in subcontracts addressing these possibilities.

This Contract is subject to the apprenticeship requirements of Labor Law §222 and to apprenticeship requirements established by the Department pursuant to Labor Law §816-b. Please be advised that the involved trades have apprenticeship programs that meet the statutory requirements of Labor Law 222(e) and the requirements set by the Department pursuant to Labor Law §816-b, Contractors and subcontractors who agree to perform the Work pursuant to the PLA are participating in such apprenticeship programs within the meaning of Labor Law §222(e) and the Department's directive.

If this Contract is subject to the Minority-Owned and Women-Owned Business Enterprise ("M/WBE") program implemented pursuant to New York City Administrative Code §6-129, the specific requirements of M/WBE participation for this Contract are set forth in Schedule B entitled the "Subcontractor Utilization Plan," and are detailed in a separate Notice to Prospective Contractors included with this bid package. If such requirements are included with this Contract, the City strongly advises Contractors to read those provisions, as well as PLA Article 4, Section 2(C), carefully. A list of certified M/WBE firms may be obtained from the Department of Small Business Services (DSBS) website at www.nyc.gov/getcertified, by emailing DSBS at MWBE@sbs.nyc.gov, by calling the DSBS certification hotline at (212) 513-6311, or by visiting or writing DSBS at 110 William St., 7th floor, New York, New York, 10038.

The local collective bargaining agreements (CBAs) that are incorporated into the PLA as PLA Schedule A Agreements are available on computer disk from the Department's Contract Officer upon the request of any prospective bidder. Please note that the "PLA Schedule A" is distinct from the Department's Schedule A that is a part of this invitation for bids.

A contact list for the participating unions is set forth after the FAQs.

Below are answers to frequently asked questions (FAQs) about this PLA:

1. **Q.** Does a Contractor need to be signatory with the unions in the NYC Building and Construction Trades Council in order to bid on projects under the PLA?
A. No, any contractor may bid by signing and agreeing to the terms of the PLA. The contractor need not be signatory with these unions by any other labor agreement or for any other project.
2. **Q.** Does a Contractor agreeing to the PLA and signing the Letter of Assent create a labor agreement with these unions outside of the project covered by the PLA?
A. No, the PLA applies only to those projects that the Contractor agrees to perform under the PLA and makes no labor agreement beyond those projects.
3. **Q.** Do the provisions of the PLA apply equally to subcontractors as well as contractors and how does the PLA affect the subcontractors that a bidder may utilize on the project?
A. Yes, the PLA applies to subcontractors and all subcontractors must agree to become party to the PLA. See PLA Art. 2, Sec. 8. Subject to the Department's approval of subcontractors pursuant to Article 17 of the Standard Construction Contract, a Contractor may use any subcontractor, union or non-union, as long as the subcontractor signs and agrees to the terms of the PLA.
4. **Q.** Are bidders required to submit Letters of Assent signed by proposed subcontractors with their bid in order to be found responsive?
A. No, bidders do not have to submit signed Letters of Assent from their subcontractors with their bid. Subcontractors, however, will be required to sign the Letter of Assent prior to being approved by the Department.
5. **Q.** May a Contractor or subcontractor use any of its existing employees to perform this work?
A. Generally labor will be referred to the Contractor from the respective signatory local unions. See PLA Article 4. However, Contractors and subcontractors may continue to use up to 12% of their existing, qualifying labor force for this work, in accordance with the terms of PLA Article 4, Section 2B. Certified M/WBEs for which participation goals are set pursuant to NYC Administrative Code §6-129 that are not signatory to any Schedule A CBAs may use their existing employees for the 2nd, 4th, 6th and 8th employee needed on the job if their contracts are valued at or under \$500,000. For contracts valued at above \$500,000 but under \$1,000,000, such certified M/WBEs may use their own employees for the 2nd, 5th and 8th employees needed on the job in accordance with the provisions of PLA Article 4, Section 2C. If additional workers are needed by these M/WBEs, the additional workers will be referred to the Contractor from the signatory local unions subject to the Contractor's right to meet 12% of the additional needs with its existing, qualifying employees.
6. **Q.** Must the City set M/WBE participation goals for the particular project or contract in order for a certified M/WBE to utilize the provisions of PLA Article 4, Section 2C?
A. No. PLA Article 4, Section 2(C) specifies what categories of M/WBEs are eligible to take advantage of this provision (i.e., those M/WBEs for which the City is

authorized to set participation goals under §6-129). For purposes of section 2(C), it is not necessary for the project to be subject to §6-129 or for the City to have actually set participation goals for the particular contract or project. The result is the same where a projects receives State funding and therefore is subject to the requirements of Article 15-A of the Executive Law.

7. **Q.** May a Contractor bring in union members from locals that are not signatory unions?
A. Referrals will be from the respective signatory locals and/or locals listed in Schedule A of the PLA. Contractors may utilize 'traveler provisions' contained in the local collective bargaining agreements (local CBAs) where such provisions exist and/or in accordance with the provisions of PLA Article 4, Section 2.
8. **Q.** Does a non-union employee working under the PLA automatically become a union member?
A. No, the non-union employee does not automatically become a union member by working on a project covered by the PLA. Non-union employees working under the PLA are subject to the union security provisions (i.e., union dues/agency shop fees) of the local CBAs while on the project. These employees will be enrolled in the appropriate benefit plans and earn credit toward various union benefit programs except in certain circumstances as set forth in the PLA. See PLA Article 4, Section 6 and Article 11.
9. **Q.** When will the agency shop dues payer affiliate workers become eligible for union benefits?
A. Union benefit plans have their own plan documents that determine eligibility and workers will become eligible for certain benefits at different points in time. Contractors who will have agency shop dues payer affiliate workers should speak with the respective union(s) as to benefit eligibility thresholds.
10. **Q.** Are all Contractors and subcontractors working under the PLA, including non-union Contractors and Contractors signatory to collective bargaining agreements with locals other than those that are signatories to the PLA, required to make contributions to designated employee benefit funds?
A. Except in certain circumstances, as described in the following paragraph, Contractors and subcontractors working under the PLA will be required to contribute on behalf of all employees covered by the PLA to established jointly trustee employee benefit funds designated in the Schedule A CBAs and required to be paid on public works under any applicable prevailing wage law. See PLA Article 11, Section 2. The Agency may withhold from amounts due the Contractor any amounts required to be paid, but not actually paid into any such fund by the Contractor or a subcontractor. See PLA Article 11, Section 2 D.

Non-union Contractors with bona fide private benefit plans that satisfy the requirements of Labor Law 220 will not be required to pay into union benefit funds for their employees working pursuant to Article 4, Section 2 (B) and (C) ("core" employees) who are already covered under their bona fide private benefit plans. Supplemental benefit funds in excess

of the annualized value of the private benefit plans will be paid to workers as additional wages in compliance with Labor Law 220. At the time of contract award, the Contractor shall make available to the contracting Agency a complete set of plan documents for each private benefit plan into which contributions will be made and/or coverage provided. The Contractor shall also provide certification from a certified public accountant as to the annualized hourly value of such benefits consistent with the requirements of Section 220. See PLA Article 11, Section 2.

11. Q. What happens if a Contractor or subcontractor fails to make a required payment to a designated employee benefit fund?

A. The PLA sets forth a process for unions to address a contractor or a subcontractor's failure to make required payments. The process includes potentially the direct payment by the City to the benefit fund of monies owed and the corresponding withholding of payments to the Contractor. See PLA Article 11, Section 2.

Upon notification by a union or fringe benefit fund that a Contractor is delinquent in its payment of benefits and a determination by the Agency that the union or fund has submitted appropriate documentation of such delinquency, the Agency will thereafter require the Contractor to submit cancelled checks or other equivalent proof of payment of benefit contributions with certified payroll reports for work covered by this PLA on which the Contractor is engaged.

The City strongly advises Contractors to read these provisions carefully and to include appropriate provisions in subcontracts addressing these possibilities.

12. Q. Does signing on to the PLA satisfy the Apprenticeship Requirements established for this bid?

A. Yes. By agreeing to perform the Work subject to the PLA, the bidder demonstrates compliance with the apprenticeship requirements imposed by this Invitation for Bids.

13. Q. Who decides on the number of workers needed?

A. Except as expressly limited by a specific provision of the PLA, a Contractor retains full and exclusive authority for the management of their operations, including the determination as to the number of employees to be hired and the qualifications therefore and the promotion, transfer, and layoff of its employees. See PLA Article 6, Section 1.

14. Q. May a contractor discharge a union referral for lack of productivity?

A. Again, except as expressly limited by a specific provision of the PLA, a Contractor retains full and exclusive authority for the management of their operations, including the right to discipline or discharge for just cause its employees. See PLA Article 6, Section 1.

15. Q. May a contractor assign a management person to site?

A. Yes. Managers are not subject to the provisions of the PLA, so there is no restriction on management and/or other non-trade personnel, as long as such personnel do not perform trade functions. See Article 3, Section 1.

16. Q. Does the PLA provide a standard work day across all the signatory trades?

A. Yes, all signatory trades will work an eight (8) hour day, Monday through Friday with a day shift at straight time as the standard work week. The PLA also permits a Contractor to schedule a four day (within Monday through Friday) work week, ten (10) hours per day at straight time if announced at the commencement of the project. See PLA Article 12, Section 1. This is an example where the terms of the PLA override provisions of the Standard Construction Contract (compare with section 37.2 of the Standard Construction Contract). The standard work week may be reduced to 35 or 37 ½ hours of work in those limited circumstances where the City states in the bid documents that the Contractor will not be given access to the site to accommodate an 8 hour day. The 8 hour, 7 ½ hour or 7 hour work day must be established at the commencement of the project and may not be altered by the Contractor.

17. Q. Does the PLA create a common holiday schedule for all the signatory trades?

A. Yes, the PLA recognizes nine (9) common holidays, including Veterans Day. See PLA Article 12, Section 4.

18. Q. Does the PLA provide for a standard policy for 'shift work' across all signatory trades?

A. Yes, second and third shifts may be worked with a standard 5% premium pay. In addition, a day shift does not have to be scheduled in order to work the second and third shifts at the 1.05 hourly pay rate. See PLA Article 12, Section 3.

19. Q. May the Contractor schedule overtime work, including work on a weekend?

A. Yes, the PLA permits the Contractor to schedule overtime work, including work on weekends. See PLA Article 12, Sections 2, 3, and 5. To the extent that the Agency's approval is required before a Contractor may schedule or be paid for overtime, that approval is still required notwithstanding the PLA language.

20. Q. Are overtime payments affected by the PLA?

A. Yes, all overtime pay incurred Monday through Saturday will be at time and one half (1 ½). There will be no stacking or pyramiding of overtime pay under any circumstances. See PLA Article 12, Section 2. Sunday and holiday overtime will be paid according to each trade's CBA.

21. Q. Are there special provisions for Saturday work when a day is 'lost' during the week due to weather, power failure or other emergency?

A. Yes, when this occurs the Contractor may schedule Saturday work at weekday rates. See PLA Article 12, Section 5.

22. Q. Does the PLA contain special provisions for the manning of Temporary Services?

A. Yes. Where temporary services are required by specific request of the Agency or construction manager, they shall be provided by the Contractor's existing employees during working hours in which a shift is scheduled for employees of the Contractor. The need for temporary services during non-working hours will be determined by the Agency or construction manager. There will be no stacking of trades on temporary services. See PLA Article 15.

23. Q. What do the workers get paid when work is terminated early in a day due to inclement weather or otherwise cut short of 8 hours?

A. The PLA provides that employees who report to work pursuant to regular schedule and not given work will be paid two hours of straight time. Work terminated early for severe weather or emergency conditions will be paid only for time actually worked. In other instances where work is terminated early, the worker will be paid for a full day. See PLA Article 12, Sections 6 and 8. The usual reporting pay requirement of two hours for employees who report to their work location pursuant to their regular schedule does not apply when the National Weather Service issues a Weather Advisory and the Contractor speaks to the employee at least four hours before their shift starting time. See PLA Article 12, Section 6.

24. Q. Should a local collective bargaining agreement of a signatory union expire during the project will a work stoppage occur on a project subject to the PLA?

A. No. All the signatory unions are bound by the 'no strike' agreement as to the PLA work. Work will continue under the PLA and the otherwise expired local CBA(s) until the new local CBA(s) are negotiated and in effect. See PLA Articles 7 and 19.

25. Q. May a Contractor working under the PLA be subject to a strike or other boycott activity by a signatory union at another site while the Contractor is a signatory to the PLA?

A. Yes. The PLA applies ONLY to work under the PLA and does not regulate labor relations at other sites even if those sites are in close proximity to PLA work.

26. Q. If a Contractor has worked under other PLAs in the New York City area, are the provisions in this PLA generally the same as the others?

A. While Project Labor Agreements often look similar to each other, and particular clauses are often used in multiple agreements, each PLA is a unique document and should be examined accordingly.

27. Q. What happens if a dispute occurs between the Contractor and an employee during the project?

A. The PLA contains a grievance and arbitration process to resolve disputes between the Contractor and the employees. See PLA Article 9.

28. Q. What happens if there is a dispute between locals as to which local gets to provide employees for a particular project or a particular aspect of a project?

A. The PLA provides for jurisdictional disputes to be resolved in accordance with the NY Plan. See PLA Article 10. A copy of the NY Plan is available upon request from the

Department. The PLA provides that work is not to be disrupted or interrupted pending the resolution of any jurisdictional dispute. The work proceeds as assigned by the Contractor until the dispute is resolved. See PLA Article 10, Section 3.

29. **Q.** Does the 2015 Renovation PLA contain special provisions for JOCS or task order based Contracts?

A. The PLA does not apply to Task Orders or Work Orders that do not exceed \$10,000 issued under JOCS or Requirements Contracts otherwise subject to the PLA. See PLA Article 3, Section 1.

NYC Project Labor Agreements

CONTACT INFORMATION FOR LOCAL UNIONS (Updated May 2016)

BOILER MAKERS LOCAL NO. 5

24 Van Siclen Avenue
Floral Park, NY 11001
Phone: (516) 326-2500
Fax: (516) 326-3435
Business Manager: Steve Ludwigson

BLASTERS, DRILLRUNNERS & MINERS LOCAL NO. 29

43-12 Ditmars Blvd.
Astoria, NY, 11105
Phone: (718) 278-5800
Business Manager: Thomas Russo

BRICKLAYERS LOCAL NO. 1

4 Court Square #1
Long Island City, NY 11101
Phone: (718) 392-0525
Business Manager: Jeramiah Sullivan

CARPENTERS DISTRICT COUNCIL

395 Hudson Street, 9th Fl
New York, New York 10014
Phone: (212) 366-7500
Fax: (212) 675-3140
Business Manager: Joe Geiger
John Sheehy, D.C. Rep.

CEMENT MASONS NO. 780

150-50 14th Rd Suite 4
Whitestone, NY 11357
Phone: (718) 357-3750
Fax: (718) 357-2057
Business Manager: Gino Castingnoli

CONCRETE WORKERS DISTRICT COUNCIL NO. 16

29-18 35th Avenue
Long Island City, NY 11106
Phone: (718) 392-5077
Fax: (718) 392-5087
Business Manager: Alex Castaldi

DERRICKMEN & RIGGERS LOCAL 197

35-53 24th Street

Long Island City, NY 11101

Phone: (718) 361-6534

Fax: (718) 361-6584

Business Manager: William Hayes

Billhayes197@yahoo.com

DRYWALL TAPERS 1974

265 West 14th Street

New York, NY 10011

Phone: (212) 242-8500

Fax: (212) 242-2356

Business Manager: Sal Marsala

ELECTRICAL LOCAL NO. 3

158-11 Harry Van Arsdale, Jr. Avenue

Flushing, NY 11365

Phone: (718) 591-4000

Fax: (718) 380-8998

Business Manager: Chris Erickson

Raymond Melville, Asst. Bus. Mgr.

Construction

ELEVATOR CONSTRUCTORS NO. 1

47-24 27th Avenue

Long Island City, NY 11101

Phone: (718) 767-7004

Fax: (718) 767-6730

Business Manager: Lenny Legotte

llegotte@localoneiuec.com

ENGINEERS LOCAL NO. 14

141-57 Northern Boulevard

Flushing, NY 11354

Phone: (718) 939-0600

Fax: (718) 939-3131

Business Manager: Edwin Christian

ENGINEERS NO. 15, 15A, 15B, 15C, 15D

44-40 11th Street

Long Island City, NY 11101

Phone: (212) 929-5327

Business Manager: Tom Callahan

ENGINEERS NO. 30

16-16 Whitestone Expressway
Whitestone, NY 11357
Phone: (718) 847-8484
Fax: (718) 850-0524
Business Manager: William Lynn

ENGINEERS No. 94

331-337 West 44th Street
New York, NY 10036
Phone: (212) 245-7040
Fax: (212) 245-7886
Business Manager: Kuba Brown
kubabrown@local94.com

GLAZIERS NO. 1087

45 West 14th Street
New York, NY 10011
Phone: (212) 924-5200
Fax: (212) 255-1151
Business Manager: Steve Birmingham

**HEAT & FROST INSULATORS
AND ALLIED WORKERS
LOCAL UNION NO. 12**

35-53 24th Street
Long Island City, NY 11101
Phone: (718) 784-3456
Fax: (718) 784-8357
Business Manager: Matty Aracich
matty@insulatorslocal12.com

**HEAT & FROST INSULATORS
LOCAL UNION NO. 12A**

1536 127th Street
College Point, NY 11356
Phone: (718) 886-7226
Business Manager: Jaime Soto

IRON WORKERS DISTRICT COUNCIL

22 West 46th Street
New York, NY 10036
Phone: (212) 302-1868
Business Manager: James Mahoney
jmahoney@iwintl.org

IRON WORKERS NO. 40 (Manhattan, The Bronx & Staten Island)

451 Park Avenue South
New York, NY 10016
Phone: (212) 889-1320
Fax: (212) 779-3267
Business Manager: Bob Walsh

IRON WORKERS NO. 361 (Brooklyn & Queens)

89-19 97th Avenue
Ozone Park, NY 11416
Phone: (718) 322-1016/17
Fax: (718) 322-1053
Business Manager: Matthew Chartrand

**LABORERS LOCAL NO. 78
ASBESTOS & LEAD ABATEMENT**

30 Cliff Street
New York, New York 10038
Phone: (212) 227-4803
Fax: (212) 406-1800
Business Manager: Edison Severino

**LABORERS, CONSTRUCTION AND
GENERAL BUILDING NO. 79**

520 8th Avenue
New York, NY 10018
Phone: (212) 465-7900
Fax: (212) 465-7903
Business Manager: Michael Prohaska

LABORERS NO. 731

34-11 35th Avenue
Astoria, NY 11106
(718) 706-0720
Business Manager: Joseph D'Amato

**LATHERS METAL
LOCAL NO. 46**

1322 Third Avenue
New York, NY 10021
Phone: (212) 737-0500
Fax: (212) 249-1226
Business Manager: Terrance Moore

MASON TENDERS DIST. COUNCIL

520 8th Avenue

New York, NY 10018

Phone: (212) 452-9400

Fax: (212) 452-9499

Business Manager: Robert Bonanza

METAL POLISHERS

LOCAL UNION NO. 8A-28A

36-18 33rd Street 2nd Fl.

Long Island City, NY 11106

Phone: (718) 361-1770

Fax: (718) 361-1934

Business Manager: Hector Lopez

MILLWRIGHT AND MACHINERY

ERECTORS LOCAL NO. 740

89-07 Atlantic Avenue

Woodhaven, NY 11412

Phone: (718) 849-3636

Fax: (718) 849-0070

Business Manager: Joseph Geiger

ORNAMENTAL IRON WORKERS

NO. 580

501 West 42nd Street

New York, NY 10036

Phone: (212) 594-1662

Fax: (212) 564-2748

Business Manager: Pete Myers

PAINTERS DISTRICT

COUNCIL NO. 9

45 West 14th Street

New York, NY 10011

Phone: (212) 255-2950

Fax: (212) 255-1151

Business Manager: Joseph Azzopardi

PAINTERS STRUCTURAL STEEL

NO. 806

40 West 27th Street

New York, New York 10001

Phone: (212) 447-1838/0149

Fax: (212) 545-8386

Business Manager: Angelo Serse

**PAVERS & ROAD BUILDERS
DISTRICT COUNCIL NO. 1**

136-25 37th Avenue, Suite 502
Flushing, NY 11354
Phone: (718) 886-3310
Business Manager: Keith Lozcalzo

PLASTERS LOCAL UNION NO. 262

2241 Conner Street
Bronx, NY 10466
Phone: (718) 547-5440
Fax: (718) 547-5435
Business Manager: Michael Hubler

PLUMBERS NO. 1

158-29 Cross Bay Boulevard
Howard Beach, NY 11414
Phone: (718) 738-7500
Fax: (718) 835-0896
Business Manager: John Murphy

PRIVATE SANITATION

LOCAL NO. 813

45-18 Court Square, Suite 600
Long Island City, NY 11101
Phone: (718) 937-7010 ext. 244
Fax: (718) 937-7003
Business Manager: Sean Campbell

ROOFERS & WATERPROOFERS NO. 8

12-11 43rd Avenue
Long Island City, NY 11101
Phone: (718) 361-1169
Fax (718) 361-8330
Business Manager: Nick Siciliano

SHEET METAL WORKERS

LOCAL NO. 28

MANHATTAN OFFICE

500 Greenwich Street
New York, NY 10013
Phone: (212) 941-7700
Fax: (212) 226-0304
Business Manager: Kevin Connors

**SHEET METAL WORKERS
LOCAL 137**

21-42 44th Drive
Long Island City, NY 11101
Phone: (718) 937-4514
Fax: (718) 937-4113
Business Manager: Dante Dano

**STEAMFITTERS LOCAL UNION
NO. 638**

32-32 48th Avenue
Long Island City, NY 11101
Phone: (718) 392-3420
Fax: (718) 784-7285
Business Manager: Bob Bartels

TEAMSTERS LOCAL UNION 282

2500 Marcus Avenue
Lake Success, NY 11042
Phone: (516) 488-2822
Fax: (516) 488-4895
Business Manager: Tom Gesauldi

TEAMSTERS LOCAL UNION 814

21-42 44th Drive
Long Island City, NY 11101
Phone: (718) 609-6407
Fax: (718) 361-9610
Business Manager: Jason Ide

**TILE, MARBLE & TERRAZO B.A.C.
LOCAL UNION 7**

45-34 Court Square
Long Island City, NY 11101
Phone: (718) 786-7648
Fax: (718) 472-2370
Business Manager: Tom Lane

TIMBERMEN & DOCKBUILDERS LOCAL 1556

395 Hudson Street
New York, NY 10014
Phone: (212) 242-1320
Business Manager: Joseph Geiger

NYC AGENCY RENOVATION & REHAB OF CITY OWNED BUILDINGS/STRUCTURES
PLA

PROJECT LABOR AGREEMENT

COVERING SPECIFIED

**RENOVATION & REHABILITATION
OF CITY OWNED BUILDINGS AND STRUCTURES**

2015 - 2018

NYC AGENCY RENOVATION & REHAB OF CITY OWNED BUILDINGS/STRUCTURES
PLA

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**PROJECT LABOR AGREEMENT COVERING SPECIFIED
RENOVATION & REHABILITATION OF NEW YORK CITY OWNED
FACILITIES & STRUCTURES**

ARTICLE 1 - PREAMBLE

WHEREAS, the City of New York desires to provide for the cost efficient, safe, quality, and timely completion of certain rehabilitation and renovation work ("Program Work," as defined in Article 3) in a manner designed to afford the lowest costs to the Agencies covered by this Agreement, and the Public it represents, and the advancement of permissible statutory objectives;

WHEREAS, this Project Labor Agreement will foster the achievement of these goals, inter alia, by:

(1) providing a mechanism for responding to the unique construction needs associated with this Program Work and achieving the most cost effective means of construction, including direct labor cost savings, by the Building and Construction Trades Council of Greater New York and Vicinity and the signatory Local Unions and their members waiving various shift and other hourly premiums and other work and pay practices which would otherwise apply to Program Work;

(2) expediting the construction process and otherwise minimizing the disruption to the covered Agencies' ongoing operations at the facilities that are the subject of the Agreement;

(3) avoiding the costly delays of potential strikes, slowdowns, walkouts, picketing and other disruptions arising from work disputes, reducing jobsite friction on common situs worksites, and promoting labor harmony and peace for the duration of the Program Work;

(4) standardizing the terms and conditions governing the employment of labor on Program Work;

(5) permitting wide flexibility in work scheduling and shift hours and times to allow maximum work to be done during off hours yet at affordable pay rates;

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- (6) permitting adjustments to work rules and staffing requirements from those which otherwise might obtain;
- (7) providing comprehensive and standardized mechanisms for the settlement of work disputes, including those relating to jurisdiction;
- (8) ensuring a reliable source of skilled and experienced labor; and
- (9) securing applicable New York State Labor Law exemptions.

WHEREAS, the Building and Construction Trades Council of Greater New York and Vicinity, its participating affiliated Local Unions and their members, desire to assist the City in meeting these operational needs and objectives as well as to provide for stability, security and work opportunities which are afforded by this Project Labor Agreement; and

WHEREAS, the Parties desire to maximize Program Work safety conditions for both workers and the community in the project area.

NOW, THEREFORE, the Parties enter into this Agreement:

SECTION 1. PARTIES TO THE AGREEMENT

This is a Project Labor Agreement ("Agreement") entered into by the City of New York, on behalf of itself and the Agencies covered herein, including in their capacity as construction manager of covered projects and/or on behalf of any third party construction manager which may be utilized, and the Building and Construction Trades Council of Greater New York and Vicinity ("Council") (on behalf of itself) and the signatory affiliated Local Union's ("Unions" or "Local Unions"). The Council and each signatory Local Union hereby warrants and represents that it has been duly authorized to enter into this Agreement.

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ARTICLE 2 - GENERAL CONDITIONS

SECTION 1. DEFINITIONS

Throughout this Agreement, the various Union parties including the Building and Construction Trades Council of Greater New York and Vicinity and its participating affiliated Local Unions, are referred to singularly and collectively as "Union(s)" or "Local Unions"; the term "Contractor(s)" shall include any Construction Manager, General Contractor and all other contractors, and subcontractors of all tiers engaged in Program Work within the scope of this Agreement as defined in Article 3; "Agency" means the following New York City agencies: the Department for the Aging (DFTA), Administration for Children's Services (ACS), Department of Citywide Administrative Services (DCAS), Department of Correction (DOC), Department of Design and Construction (DDC), Fire Department (FDNY), Department of Homeless Services (DHS), Human Resources Administration (HRA), Department of Health and Mental Hygiene (DOHMH), Department of Parks and Recreation (DPR), Police Department (NYPD); Department of Sanitation (DSNY); the New York City Agency that awards a particular contract subject to this Agreement may be referred to hereafter as the "Agency"; when an Agency acts as Construction Manager, unless otherwise provided, it has the rights and obligations of a "Construction Manager" in addition to the rights and obligations of an Agency; the Building and Construction Trades Council of Greater New York and Vicinity is referred to as the ["BCTC" or "Council"]; and the work covered by this Agreement (as defined in Article 3) is referred to as "Program Work."

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SECTION 2. CONDITIONS FOR AGREEMENT TO BECOME EFFECTIVE

This Agreement shall not become effective unless each of the following conditions are met: the Agreement is executed by (1) the Council, on behalf of itself, (2) the participating affiliated Local Unions; and (3) the mayor of the City of New York or his designee.

SECTION 3. ENTITIES BOUND & ADMINISTRATION OF AGREEMENT

This Agreement shall be binding on all participating Unions and their affiliates, the Construction Manager (in its capacity as such) and all Contractors of all tiers performing Program Work, as defined in Article 3. The Contractors shall include in any subcontract that they let for performance during the term of this Agreement a requirement that their subcontractors, of all tiers, become signatory and bound by this Agreement with respect to that subcontracted work falling within the scope of Article 3 and all Contractors (including subcontractors) performing Program Work shall be required to sign a "Letter of Assent" in the form annexed hereto as Exhibit "A". This Agreement shall be administered by the applicable Agency or a Construction Manager or such other designee as may be named by the Agency or Construction Manager, on behalf of all Contractors.

SECTION 4. SUPREMACY CLAUSE

This Agreement, together with the local Collective Bargaining Agreements appended hereto as Schedule A, represents the complete understanding of all signatories and supersedes any national agreement, local agreement or other collective bargaining agreement of any type which would otherwise apply to this Program Work, in whole or in part, except that Program Work which falls within the jurisdiction of the Operating

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Engineers Locals 14 and 15 will be performed under the terms and conditions set out in the Schedule A agreements of Operating Engineers Locals 14 and 15. The Collective Bargaining Agreements of the affiliated local unions that cover the particular type of construction work to be performed by the contractor, and as set forth in the Schedule A list of Agreements, shall be deemed the Schedule A Collective Bargaining Agreements ("Schedule A CBA") under this Agreement. Where association and independent Collective Bargaining Agreements for a particular type of construction work are both set forth in Schedule A, association members shall treat the applicable association agreement as the Schedule A CBA and independent contractors shall treat the applicable independent agreement as the Schedule A CBA. Subject to the foregoing, where a subject covered by the provisions of this Agreement is also covered by a Schedule A Collective Bargaining Agreement, the provisions of this Agreement shall prevail. It is further understood that no Contractor shall be required to sign any other agreement as a condition of performing Program Work. No practice, understanding or agreement between a Contractor and a Local Union which is not set forth in this Agreement shall be binding on this Program Work unless endorsed in writing by the Construction Manager or such other designee as may be designated by the Agency.

SECTION 5. LIABILITY

The liability of any Contractor and the liability of any Union under this Agreement shall be several and not joint. The Construction Manager and any Contractor shall not be liable for any violations of this Agreement by any other Contractor; and the

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Council and Local Unions shall not be liable for any violations of this Agreement by any other Union.

SECTION 6. THE AGENCY

The Agency (or Construction Manager where applicable) shall require in its bid specifications for all Program Work within the scope of Article 3 that all successful bidders, and their subcontractors of all tiers, become bound by, and signatory to, this Agreement. The Agency (or Construction Manager) shall not be liable for any violation of this Agreement by any Contractor. It is understood that nothing in this Agreement shall be construed as limiting the sole discretion of the Agency or Construction Manager in determining which Contractors shall be awarded contracts for Program Work. It is further understood that the Agency or Construction Manager has sole discretion at any time to terminate, delay or suspend the Program Work, in whole or part, on any Program.

**SECTION 7. AVAILABILITY AND APPLICABILITY
TO ALL SUCCESSFUL BIDDERS**

The Unions agree that this Agreement will be made available to, and will fully apply to, any successful bidder for (or subcontractor of) Program Work who becomes signatory thereto, without regard to whether that successful bidder (or subcontractor) performs work at other sites on either a union or non-union basis and without regard to whether employees of such successful bidder (or subcontractor) are, or are not, members of any unions. This Agreement shall not apply to the work of any Contractor which is performed at any location other than the site of Program Work.

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SECTION 8. SUBCONTRACTING

Contractors will subcontract Program Work only to a person, firm or corporation who is or agrees to become party to this Agreement.

ARTICLE 3-SCOPE OF THE AGREEMENT

SECTION 1. WORK COVERED

Program Work shall be limited to designated rehabilitation and renovation construction contracts bid and let by an Agency (or its Construction Manager where applicable) after the effective date of this Agreement with respect to rehabilitation and renovation work performed for an Agency on City-owned property under contracts let prior to December 31, 2018. Subject to the foregoing, and the exclusions below, such Program Work shall mean any and all contracts that predominantly involve the renovation, repair, alteration, rehabilitation or expansion of an existing City-owned building or structure within the five boroughs of New York City. Examples of Program Work include, but are not limited to, the renovation, repair, alteration and rehabilitation of an existing temporary or permanent structure, or an expansion of above ground structures located in the City on a City-owned building. This Program Work shall also include JOCS contracts, demolition work, site work, asbestos and lead abatement, painting services, carpentry services, and carpet removal and installation, to the extent incidental to such building rehabilitation of City-owned buildings or structures.

It is understood that, except where the City specifically applies this Project Labor Agreement to such work in its bid documents, Program Work does not include, and this Project Labor Agreement shall not apply to, any other work, including:

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1. Contracts let and work performed in connection with projects carried over, recycled from, or performed under bids or rebids relating to work that were bid prior to the effective date of this Agreement or after December 31, 2018;
2. Contracts procured on an emergency basis;
3. Contracts that do not exceed \$250,000;
4. Contracts for work on streets and bridges and for the closing or environmental remediation of landfills;
5. Contracts with not-for-profit corporations where the City is not awarding or performing the work performed for that entity;
6. Contracts with governmental entities where the City is not awarding or performing the work performed for that entity;
7. Contracts with electric utilities, gas utilities, telephone companies, and railroads, except that it is understood and agreed that these entities may only install their work to a demarcation point, e.g. a telephone closet or utility vault, the location of which is determined prior to construction and employees of such entities shall not be used to replace employees performing Program Work pursuant to this agreement;
8. Contracts for installation of information technology that are not otherwise Program Work;
9. Task Orders or Work Orders issued under JOCS or Requirements Contracts that do not exceed \$10,000, and JOCS or Requirements Contracts where the monetary value of such contracts predominantly involves such Task Orders or Work

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Orders; and

10. Contracts that do not exceed \$1 Million that are awarded pursuant to prequalified lists (PQLs) established by City agencies where entry on to the PQL is restricted to MWBEs, or a combination of MWBEs together with joint ventures which include at least one MWBE, or contractors who agree to subcontract at least 50% of the contract to MWBEs.

SECTION 2. TIME LIMITATIONS

In addition to falling within the scope of Article 3, Section 1, to be covered by this Agreement Program Work must be (1) advertised and let for bid after the effective date of this Agreement, and (2) let for bid prior to December 31, 2018, the expiration date of this Agreement. It is understood that this Agreement, together with all of its provisions, shall remain in effect for all such Program Work until completion, even if not completed by the expiration date of the Agreement. If Program Work otherwise falling within the scope of Article 3, Section 1 is not let for bid by the expiration date of this Agreement, this Agreement may be extended to that work by mutual agreement of the parties.

SECTION 3. EXCLUDED EMPLOYEES

The following persons are not subject to the provisions of this Agreement, even though performing Program Work:

A. Superintendents, supervisors (excluding general and forepersons specifically covered by a craft's Schedule A), engineers, professional engineers and/or licensed architects engaged in inspection and testing, quality control/assurance personnel, timekeepers, mail carriers, clerks, office workers, messengers, guards, technicians,

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non-manual employees, and all professional, engineering, administrative and management persons;

B. Employees of the Agency, New York City, or any other municipal or State agency, authority or entity, or employees of any other public employer, even though working on the Program site while covered Program Work is underway;

C. Employees and entities engaged in off-site manufacture, modifications, repair, maintenance, assembly, painting, handling or fabrication of project components, materials, equipment or machinery or involved in deliveries to and from the Program site, except to the extent they are lawfully included in the bargaining unit of a Schedule A agreement;

D. Employees of the Construction Manager (except that in the event the Agency engages a Contractor to serve as Construction Manager, then those employees of the Construction Manager performing manual, on site construction labor will be covered by this Agreement);

E. Employees engaged in on-site equipment warranty work unless employees are already working on the site and are certified to perform warranty work;

F. Employees engaged in geophysical testing other than boring for core samples;

G. Employees engaged in laboratory, specialty testing, or inspections, pursuant to a professional services agreement between the Agency, or any of the Agency's

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other professional consultants, and such laboratory, testing, inspection or surveying firm;
and

H. Employees engaged in on-site maintenance of installed equipment or systems which maintenance is awarded as part of a contract that includes Program Work but which maintenance occurs after installation of such equipment or system and is not directly related to construction services.

SECTION 4. NON-APPLICATION TO CERTAIN ENTITIES

This Agreement shall not apply to those parents, affiliates, subsidiaries, or other joint or sole ventures of any Contractor which do not perform Program Work. It is agreed that this Agreement does not have the effect of creating any joint employment, single employer or alter ego status among the Agency (including in its capacity as Construction Manager) or any Contractor. The Agreement shall further not apply to any New York City or other municipal or State agency, authority, or entity other than a listed Agency and nothing contained herein shall be construed to prohibit or restrict the Agency or its employees, or any State, New York City or other municipal or State authority, agency or entity and its employees, from performing on or off-site work related to Program Work.

As the contracts involving Program Work are completed and accepted, the Agreement shall not have further force or effect on such items or areas except where inspections, additions, repairs, modifications, check-out and/or warranty work are assigned in writing (copy to Local Union involved) by the Agency (or Construction Manager) for performance under the terms of this Agreement.

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ARTICLE 4- UNION RECOGNITION AND EMPLOYMENT

SECTION 1. PRE-HIRE RECOGNITION

The Contractors recognize the signatory Unions as the sole and exclusive bargaining representatives of all employees who are performing on-site Program Work, with respect to that work.

SECTION 2. UNION REFERRAL

A. The Contractors agree to employ and hire craft employees for Program Work covered by this Agreement through the job referral systems and hiring halls established in the Local Unions' area collective bargaining agreements. Notwithstanding this, Contractors shall have sole right to determine the competency of all referrals; to determine the number of employees required; to select employees for layoff (subject to Article 5, Section 3); and the sole right to reject any applicant referred by a Local Union, subject to the show-up payments. In the event that a Local Union is unable to fill any request for qualified employees within a 48 hour period after such requisition is made by a Contractor (Saturdays, Sundays and holidays excepted), a Contractor may employ qualified applicants from any other available source. In the event that the Local Union does not have a job referral system, the Contractor shall give the Local Union first preference to refer applicants, subject to the other provisions of this Article. The Contractor shall notify the Local Union of craft employees hired for Program Work within its jurisdiction from any source other than referral by the Union.

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B. A Contractor may request by name, and the Local will honor, referral of persons who have applied to the Local for Program Work and who meet the following qualifications:

- (1) possess any license required by New York State law for the Program Work to be performed;
- (2) have worked a total of at least 1000 hours in the Construction field during the prior 3 years; and
- (3) were on the Contractor's active payroll for at least 60 out of the 180 calendar days prior to the contract award.

No more than twelve per centum (12%) of the employees covered by this Agreement, per Contractor by craft, shall be hired through the special provisions above. Under this provision, name referrals begin with the eighth employee needed and continue on that same basis.

C. Notwithstanding Section 2(B), above, certified MWBE contractors for which participation goals are set forth in New York City Administrative Code §6-129, that are not signatory to any Schedule A CBAs, with contracts valued at or under five hundred thousand (\$500,000), may request by name, and the Local will honor, referral of the second (2nd), fourth (4th), sixth (6th), and eighth (8th) employee, who have applied to the Local for Program Work and who meet the following qualifications:

- (1) possess any license required by New York State law for the Program Work to be performed;
- (2) have worked a total of at least 1000 hours in the Construction field during the prior 3 years; and
- (3) were on the Contractor's active payroll for at least 60 out of the 180 work days prior to the contract award.

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For such contracts valued at above \$500,000 but less than \$1 million, the Local will honor referrals by name of the second (2nd), fifth (5th), and eighth (8th) employee subject to the foregoing requirements. In both cases, name referrals will thereafter be in accordance with Section 2(B), above.

D. Where a certified MWBE Contractor voluntarily enters into a Collective Bargaining Agreement ("CBA") with a BCTC Union, the employees of such Contractor at the time the CBA is executed shall be allowed to join the Union for the applicable trade subject to satisfying the Union's basic standards of proficiency for admission.

SECTION 3. NON-DISCRIMINATION IN REFERRALS

The Council represents that each Local Union hiring hall and referral system will be operated in a non-discriminatory manner and in full compliance with all applicable federal, state and local laws and regulations which require equal employment opportunities. Referrals shall not be affected in any way by the rules, regulations, bylaws, constitutional provisions or any other aspects or obligations of union membership, policies or requirements and shall be subject to such other conditions as are established in this Article. No employment applicant shall be discriminated against by any referral system or hiring hall because of the applicant's union membership, or lack thereof.

SECTION 4: MINORITY, FEMALE, LOCAL AND SECTION 3 REFERRALS

In the event a Local Union either fails, or is unable to refer qualified minority or female applicants in percentages equaling the workforce participation goals adopted by the City and set forth in the Agency's (or, if applicable, Construction Manager's) bid

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specifications, within 48 hours of the request for same, the Contractor may employ qualified minority or female applicants from any other available source.

In the event that the City or a City agency determines to adopt local workforce participation goals to be set forth in an Agency's (or, if applicable Construction Manager's) bid specifications, the City and BCTC will work together to seek agreement on appropriate goals to be set forth in applicable bid documents and to be subject to the provisions of this section.

For any Program Work that may become subject to requirements under Section 3 of the Housing and Urban Development Act of 1968, as amended by the Housing and Community Development Act of 1992, and any rules, including new or revised rules, that may be published thereunder, the Local Unions will acknowledge the Section 3 obligations of the Construction Manager or Contractor, as applicable, and agree to negotiate a method to implement this Article in a manner that would allow the Construction Manager or Contractor to meet its Section 3 obligations to the greatest extent feasible, and to post any required notices in the manner required by Section 3. The parties also acknowledge that the Construction Manager and Contractor may also fulfill its Section 3 requirements on Program Work by promoting opportunities for excluded employees, as defined by Article 3, Section 3 of this Agreement, on Program Work and, to the extent permitted by Section 3, by promoting opportunities for craft and other employees on non-Program Work.

SECTION 5. CROSS AND QUALIFIED REFERRALS

The Local Unions shall not knowingly refer to a Contractor an employee then employed by another Contractor working under this Agreement. The Local Unions

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will exert their utmost efforts to recruit sufficient numbers of skilled and qualified crafts employees to fulfill the requirements of the Contractor.

SECTION 6. UNION DUES

All employees covered by this Agreement shall be subject to the union security provisions contained in the applicable Schedule A local agreements, as amended from time to time, but only for the period of time during which they are performing on-site Program Work and only to the extent of tendering payment of the applicable union dues and assessments uniformly required for union membership in the Local Unions which represent the craft in which the employee is performing Program Work. No employee shall be discriminated against at any Program Work site because of the employee's union membership or lack thereof. In the case of unaffiliated employees, the dues payment will be received by the Local Unions as an agency shop fee.

SECTION 7. CRAFT FOREPERSONS AND GENERAL FOREPERSONS

The selection of craft forepersons and/or general forepersons and the number of forepersons required shall be solely the responsibility of the Contractor except where otherwise provided by specific provisions of an applicable Schedule A, and provided that all craft forepersons shall be experienced and qualified journeypersons in their trade as determined by the appropriate Local Union. All forepersons shall take orders exclusively from the designated Contractor representatives. Craft forepersons shall be designated as working forepersons at the request of the Contractor, except when an existing local Collective Bargaining Agreement prohibits a foreperson from working when the craft persons he is leading exceed a specified number.

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SECTION 8. ON CALL REPAIR REFERRALS

A. When an Agency awards a contract that requires the Contractor to have employees available on short notice to make time sensitive repairs with such contract requiring the Contractor to respond within as little as two hours from the time the Contractor is contacted by the Agency ("On Call, Repair Contract"), the Contractor will, within ten (10) days of being awarded an On Call, Repair Contract subject to this Agreement, notify the appropriate affiliated Union that it has been awarded such a contract and immediately enter into good faith negotiations with such relevant affiliated Union to establish a procedure to receive time sensitive referrals from such affiliated Union(s).

B. In the event the Contractor and the relevant affiliated Union(s) are unable to negotiate a specific, mutually agreeable procedure for on call repair referral procedure within twenty (20) days of commencement of negotiations or prior to commencement of performance of the contract, whichever is earlier, the Contractor and the relevant affiliated Unions will follow the following procedure:

1. Upon notification by a Contractor that it has been awarded an On Call Repair Contract pursuant to paragraph A above, each relevant affiliate Union shall provide the Contractor with the name and twenty four (24) hour contact information of an On Call, Repair Contract contact person for urgent on call repair referrals.

2. The relevant affiliated Unions shall prepare a list of individuals eligible and prepared for referral on an immediate basis to respond to the on call repair contractor. Such list shall be provided to and in the possession of the designated on call repair contact person for the affiliated Union and available for immediate reference.

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3. Individuals on such list must be able to comply with the Contractor's response time pursuant to contract requirements.

4. The Union's On Call, Repair Contract contact person shall respond to a contractor's request for referrals within a reasonable time of the request so that compliance with the contract shall be possible.

C. In the event that the Contractor makes a request for an on call referral that is compliant with this procedure and a Union is not able to respond to the request, that Union will be deemed to have waived the forty-eight (48) hour referral rule contained in Section 2 above and the Contractor may employ qualified applicants from any other available source that can meet contract requirements for that time sensitive on call repair work only; provided, however, that any work related to the repair work that is not of a time sensitive nature under the contract shall comply with Section 2. If a Union fails to timely refer a worker and the Contractor employs other workers, the Contractor will e-mail the agency within 72 hours and the agency will forward that e-mail to the designated Labor Management Committee contacts.

ARTICLE 5- UNION REPRESENTATION

SECTION 1. LOCAL UNION REPRESENTATIVE

Each Local Union representing on-site employees shall be entitled to designate in writing (copy to Contractor involved and Construction Manager) one representative, and/or the Business Manager, who shall be afforded access to the Program Work site during such time as bargaining unit work is occurring and subject to otherwise applicable policies pertaining to visitors to the site.

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SECTION 2. STEWARDS

A. Each Affiliated Union shall have the sole discretion to designate any journey person as a Steward and an alternate Steward. The Union shall notify the Owner and/or Construction Manager as well as the Contractor of the identity of the designated Steward (and alternate) prior to the assumption of such duties. Stewards shall not exercise supervisory functions and will receive the regular rate of pay for their craft classifications. All Stewards shall be working Stewards.

B. In addition to their work as an employee, the Steward shall have the right to receive complaints or grievances and to discuss and assist in their adjustment with the Contractor's appropriate supervisor. Each Steward shall be concerned with the employees of the Steward's trade and, if applicable, subcontractors of their Contractor, but not with the employees of any other trade Contractor. No Contractor shall discriminate against the Steward in the proper performance of Union duties.

C. The Stewards shall not have the right to determine when overtime shall be worked, or who shall work overtime except pursuant to a Schedule A provision providing procedures for the equitable distribution of overtime.

SECTION 3. LAYOFF OF A STEWARD

Contractors agree to notify the appropriate Union 24 hours prior to the layoff of a Steward, except in cases of discipline or discharge for just cause. If a Steward is protected against layoff by a Schedule A provision, such provision shall be recognized to the extent the Steward possesses the necessary qualifications to perform the work required.

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In any case in which a Steward is discharged or disciplined for just cause, the Local Union involved shall be notified immediately by the Contractor.

ARTICLE 6- MANAGEMENT'S RIGHTS

SECTION 1. RESERVATION OF RIGHTS

Except as expressly limited by a specific provision of this Agreement, Contractors retain full and exclusive authority for the management of their operations including, but not limited to, the right to: direct the work force, including determination as to the number of employees to be hired and the qualifications therefore; the promotion, transfer, layoff of its employees; require compliance with the directives of the Agency including standard restrictions related to security and access to the site that are equally applicable to Agency employees, guests, or vendors; or the discipline or discharge for just cause of its employees; assign and schedule work; promulgate reasonable Program Work rules that are not inconsistent with this Agreement or rules common in the industry and are reasonably related to the nature of work; and, the requirement, timing and number of employees to be utilized for overtime work. No rules, customs, or practices which limit or restrict productivity or efficiency of the individual, as determined by the Contractor, Agency and/or Construction Manager and/or joint working efforts with other employees shall be permitted or observed.

SECTION 2. MATERIALS, METHODS & EQUIPMENT

There shall be no limitation or restriction upon the Contractor's choice of materials, techniques, methods, technology or design, or, regardless of source or location, upon the use and installation of equipment, machinery, package units, pre-cast,

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pre-fabricated, pre-finished, or pre-assembled materials or products, tools, or other labor-saving devices. Contractors may, without restriction, install or use materials, supplies or equipment regardless of their source; provided, however, that where there is a Schedule "A" that includes a lawful union standards and practices clauses, then such clause as set forth in Schedule A Agreements will be complied with, unless there is a lawful Agency specification (or specification issued by a Construction Manager which would be lawful if issued by the Agency directly) that would specifically limit or restrict the Contractor's choice of materials, techniques, methods, technology or design, or, regardless of source or location, upon the use and installation of equipment, machinery, package units, pre-cast, pre-fabricated, pre-finished, or pre-assembled materials or products, tools, or other labor-saving devices, and which would prevent compliance with such Schedule A clause. The on-site installation or application of such items shall be performed by the craft having jurisdiction over such work; provided, however, it is recognized that other personnel having special qualifications may participate, in a supervisory capacity, in the installation, check-off or testing of specialized or unusual equipment or facilities as designated by the Contractor. There shall be no restrictions as to work which is performed off-site for Program Work.

ARTICLE 7- WORK STOPPAGES AND LOCKOUTS

SECTION 1. NO STRIKES-NO LOCK OUT

There shall be no strikes, sympathy strikes, picketing, work stoppages, slowdowns, hand billing, demonstrations or other disruptive activity at the Program Work site for any reason by any Union or employee against any Contractor or employer. There

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shall be no other Union, or concerted or employee activity which disrupts or interferes with the operation of the Program Work or the objectives of the Agency at any Program Work site. In addition, failure of any Union or employee to cross any picket line established by any Union, signatory or non-signatory to this Agreement, or the picket or demonstration line of any other organization, at or in proximity to a Program Work site where the failure to cross disrupts or interferes with the operation of Program Work is a violation of this Article. Should any employees breach this provision, the Unions will use their best efforts to try to immediately end that breach and return all employees to work. There shall be no lockout at a Program Work site by any signatory Contractor, Agency or Construction Manager.

SECTION 2. DISCHARGE FOR VIOLATION

A Contractor may discharge any employee violating Section 1, above, and any such employee will not be eligible thereafter for referral under this Agreement for a period of 100 days.

SECTION 3. NOTIFICATION

If a Contractor contends that any Union has violated this Article, it will notify the Local Union involved advising of such fact, with copies of the notification to the Council. The Local Union shall instruct and order, the Council shall request, and each shall otherwise use their best efforts to cause, the employees (and where necessary the Council shall use its best efforts to cause the Local Union), to immediately cease and desist from any violation of this Article. If the Council complies with these obligations it shall not be liable for the unauthorized acts of a Local Union or its members. Similarly, a Local Union

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and its members will not be liable for any unauthorized acts of the Council. Failure of a Contractor or the Construction Manager to give any notification set forth in this Article shall not excuse any violation of Section 1 of this Article.

SECTION 4. EXPEDITED ARBITRATION

Any Contractor or Union alleging a violation of Section 1 of this Article may utilize the expedited procedure set forth below (in lieu of, or in addition to, any actions at law or equity) that may be brought.

A. A party invoking this procedure shall notify J.J. Pierson or Richard Adelman; who shall alternate (beginning with Arbitrator J.J. Pierson) as Arbitrator under this expedited arbitration procedure. If the Arbitrator next on the list is not available to hear the matter within 24 hours of notice, the next Arbitrator on the list shall be called. Copies of such notification will be simultaneously sent to the alleged violator and Council.

B. The Arbitrator shall thereupon, after notice as to time and place to the Contractor, the Local Union involved, the Council and the Construction Manager, hold a hearing within 48 hours of receipt of the notice invoking the procedure if it is contended that the violation still exists. The hearing will not, however, be scheduled for less than 24 hours after the notice required by Section 3, above.

C. All notices pursuant to this Article may be provided by telephone, telegraph, hand delivery, or fax, confirmed by overnight delivery, to the Arbitrator, Contractor, Construction Manager and Local Union involved. The hearing may be held on any day including Saturdays or Sundays. The hearing shall be completed in one session, which shall not exceed 8 hours duration (no more than 4 hours being allowed to either side

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to present their case, and conduct their cross examination) unless otherwise agreed. A failure of any Union or Contractor to attend the hearing shall not delay the hearing of evidence by those present or the issuance of an award by the Arbitrator.

D. The sole issue at the hearing shall be whether a violation of Section 1, above, occurred. If a violation is found to have occurred, the Arbitrator shall issue a Cease and Desist Award restraining such violation and serve copies on the Contractor and Union involved. The Arbitrator shall have no authority to consider any matter in justification, explanation or mitigation of such violation or to award damages (any damages issue is reserved solely for court proceedings, if any.) The Award shall be issued in writing within 3 hours after the close of the hearing, and may be issued without an Opinion. If any involved party desires an Opinion, one shall be issued within 15 calendar days, but its issuance shall not delay compliance with, or enforcement of, the Award.

E. The Agency and Construction Manager (or such other designee of the Agency) may participate in full in all proceedings under this Article.

F. An Award issued under this procedure may be enforced by any court of competent jurisdiction upon the filing of this Agreement together with the Award. Notice of the filing of such enforcement proceedings shall be given to the Union or Contractor involved, and the Construction Manager.

G. Any rights created by statute or law governing arbitration proceedings which are inconsistent with the procedure set forth in this Article, or which interfere with compliance thereto, are hereby waived by the Contractors and Unions to whom they accrue.

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H. The fees and expenses of the Arbitrator shall be equally divided between the involved Contractor and Union.

SECTION 5. ARBITRATION OF DISCHARGES FOR VIOLATION

Procedures contained in Article 9 shall not be applicable to any alleged violation of this Article, with the single exception that an employee discharged for violation of Section 1, above, may have recourse to the procedures of Article 9 to determine only if the employee did, in fact, violate the provisions of Section 1 of this Article; but not for the purpose of modifying the discipline imposed where a violation is found to have occurred.

ARTICLE 8 - LABOR MANAGEMENT COMMITTEE

SECTION 1. SUBJECTS

The Program Labor Management Committee will meet on a regular basis to: 1) promote harmonious relations among the Contractors and Unions; 2) enhance safety awareness, cost effectiveness and productivity of construction operations; 3) protect the public interests; 4) discuss matters relating to staffing and scheduling with safety and productivity as considerations; and 5) review efforts to meet applicable participation goals for MWBEs and workforce participation goals for minority and female employees.

SECTION 2. COMPOSITION

The Committee shall be jointly chaired by a designee of the Agency and the President of the Council. It may include representatives of the Local Unions and Contractors involved in the issues being discussed. The parties may mutually designate an

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MWBE representative to participate in appropriate Committee discussions. The Committee may conduct business through mutually agreed upon sub-committees.

ARTICLE 9- GRIEVANCE & ARBITRATION PROCEDURE

SECTION 1. PROCEDURE FOR RESOLUTION OF GRIEVANCES

Any question, dispute or claim arising out of, or involving the interpretation or application of this Agreement (other than jurisdictional disputes or alleged violations of Article 7, Section 1) shall be considered a grievance and shall be resolved pursuant to the exclusive procedure of the steps described below, provided, in all cases, that the question, dispute or claim arose during the term of this Agreement. Grievances shall include the City contract number and the Program Work address; such information is posted at the Program Work Site if already commenced, and is available in the City Record and Notice to Proceed for projects not already commenced.

Grievances as to whether a scope of work is included or excluded from this Agreement shall be submitted to the Labor Management Committee (LMC) in the first instance rather than Step 1 below. To be timely, such notice must be given no later than ten days prior to a bid opening if the grievance is challenging a determination by an Agency that the contract is not subject to this Agreement. For other grievances as to contractor scope of work issues, notice of such challenges shall be submitted to the LMC within 7 calendar days after the act, occurrence or event giving rise to the grievance. If the scope of work grievance is not resolved within 21 days of its submission to the LMC, then the grievance may proceed directly to Step 3 below.

Step 1:

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(a) When any employee covered by this Agreement feels aggrieved by a claimed violation of this Agreement, the employee shall, through the Local Union business representative or job steward give notice of the claimed violation to the work site representative of the involved Contractor and the Construction Manager. To be timely, such notice of the grievance must be given within 7 calendar days after the act, occurrence or event giving rise to the grievance. The business representative of the Local Union or the job steward and the work site representative of the involved Contractor shall meet and endeavor to adjust the matter within 7 calendar days after timely notice has been given. If they fail to resolve the matter within the prescribed period, the grieving party, may, within 7 calendar days thereafter, pursue Step 2 of the grievance procedure by serving the involved Contractor with written copies of the grievance setting forth a description of the claimed violation, the date on which the grievance occurred, and the provisions of the Agreement alleged to have been violated. Grievances and disputes settled at Step 1 are non-precedential except as to the specific Local Union, employee and Contractor directly involved unless the settlement is accepted in writing by the Construction Manager (or designee) as creating a precedent.

(b) Should any signatory to this Agreement have a dispute (excepting jurisdictional disputes or alleged violations of Article 7, Section 1) with any other signatory to this Agreement and, if after conferring, a settlement is not reached within 7 calendar days, the dispute shall be reduced to writing and proceed to Step 2 in the same manner as outlined in subparagraph (a) for the adjustment of employee grievances.

Step 2:

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A Step 2 grievance shall be filed with the Agency, the BCTC, the Contractor, and, if the grievance is against a subcontractor, the subcontractor. The Business Manager or designee of the involved Local Union, together with representatives of the involved Contractor, Council, the Construction Manager (or designee), and, if the grievance is against a subcontractor, the subcontractor, shall meet in Step 2 within 7 calendar days of service of the written grievance to arrive at a satisfactory settlement. The BCTC shall schedule the Step 2 meeting.

Step 3:

(a) If the grievance shall have been submitted but not resolved in Step 2, any of the participating Step 2 entities may, within 21 calendar days after the initial Step 2 meeting, submit the grievance in writing (copies to other participants, including the Construction Manager or designee) to the BCTC. In the event the matter is not resolved at Step 2, either J.J. Pierson or Richard Adelman, who shall act, alternately (beginning with Arbitrator J.J. Pierson), as the Arbitrator under this procedure, shall be designated at the Step 2 hearing and the BCTC will notify the arbitrator of his designation. After such notification by the BCTC, the local demanding arbitration shall within a reasonable time request the arbitrator to schedule the matter for an arbitration hearing date. The Labor Arbitration Rules of the American Arbitration Association shall govern the conduct of the arbitration hearing, at which all Step 2 participants shall be parties. The decision of the Arbitrator shall be final and binding on the involved Contractor, Local Union and employees and the fees and expenses of such arbitrations shall be borne equally by the involved Contractor and Local Union.

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(b) Failure of the grieving party to adhere to the time limits set forth in this Article shall render the grievance null and void. These time limits may be extended only by written consent of the Construction Manager (or designee), involved Contractor and involved Local Union at the particular step where the extension is agreed upon. The Arbitrator shall have authority to make decisions only on the issues presented to him and shall not have the authority to change, add to, delete or modify any provision of this Agreement.

SECTION 2. LIMITATION AS TO RETROACTIVITY

No arbitration decision or award, with the exception of those related to compliance with requirements to pay prevailing wages and supplements in accordance with federal or State law, may provide retroactivity of any kind exceeding 60 calendar days prior to the date of service of the written grievance on the Construction Manager and the involved Contractor or Local Union.

**SECTION 3. PARTICIPATION BY AGENCY AND/OR CONSTRUCTION
MANAGER**

The Agency and Construction Manager (or such other designee of the Agency) shall be notified by the involved Contractor of all actions at Steps 2 and 3 and, at its election, may participate in full in all proceedings at these Steps, including Step 3 arbitration.

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ARTICLE 10 - JURISDICTIONAL DISPUTES

SECTION 1. NO DISRUPTIONS

There will be no strikes, sympathy strikes, work stoppages, slowdowns, picketing or other disruptive activity of any kind arising out of any jurisdictional dispute. Pending the resolution of the dispute, the work shall continue uninterrupted and as assigned by the Contractor. No jurisdictional dispute shall excuse a violation of Article 7.

SECTION 2. ASSIGNMENT

All Program Work assignments shall be made by the Contractor to unions affiliated with the BCTC consistent with the New York Plan for the Settlement of Jurisdictional Disputes ("New York Plan") and its Greenbook decisions, if any. Where there are no applicable Greenbook decisions, assignments shall be made in accordance with the provisions of the New York Plan and local industry practice.

SECTION 3. NO INTERFERENCE WITH WORK

There shall be no interference or interruption of any kind with the Program Work while any jurisdictional dispute is being resolved. The work shall proceed as assigned by the Contractor until finally resolved under the applicable procedure of this Article. The award shall be confirmed in writing to the involved parties. There shall be no strike, work stoppage or interruption in protest of any such award.

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ARTICLE 11 - WAGES AND BENEFITS

SECTION 1. CLASSIFICATION AND BASE HOURLY RATE

All employees covered by this Agreement shall be classified in accordance with the work performed and paid the hourly wage rates applicable for those classifications as required by the applicable prevailing wage laws.

SECTION 2. EMPLOYEE BENEFITS

A. The Contractors agree to pay on a timely basis contributions on behalf of all employees covered by this Agreement to those established jointly trustee employee benefit funds designated in the applicable Collective Bargaining Agreements in Schedule A (in the appropriate Schedule A amounts), provided that such benefits are required to be paid on public works under any applicable prevailing wage law. Bona fide jointly trustee fringe benefit plans established or negotiated through collective bargaining during the life of this Agreement may be added if similarly required under applicable prevailing wage law. Contractors, not otherwise contractually bound to do so, shall not be required to contribute to benefits, trusts or plans of any kind which are not required by the prevailing wage law provided, however, that this provision does not relieve Contractors signatory to local collective bargaining agreement with any affiliated union from complying with the fringe benefit requirements for all funds contained in the CBA.

B. 1. Notwithstanding Section 2 (A) above, and subject to 2 (B)(2) below, Contractors who designate employees pursuant to Article 4, Section 2 (B) and (C) ("core" employees) that are not signatory to a Schedule A Agreement and who maintain bona fide private benefit plans that satisfy the requirements of Section 220 of the Labor Law, may

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satisfy the above benefit obligation with respect to those employees by providing those employees with coverage under their private benefit plans (to the extent consistent with Section 220). The total benefit payments to be made on behalf of each such employee must be equal to the total Section 220 supplement amount and any shortfall must be paid by cash supplement to the employee.

2. A contractor that will satisfy its Section 220 obligations in accordance with subsection 2(B)(1) above shall make available to the Agency at the time of contract award a complete set of plan documents for each non-Schedule A benefit plan into which contributions will be made and/or coverage provided pursuant to the provisions of Section 2(B)(1) above. The Contractor shall also provide certification from a certified public accountant as to the annualized hourly value of such benefits consistent with the requirements of Section 220.

3. The City shall verify that the alternate benefit plan(s), together with any cash supplement to the employee, is compliant with Section 220 prior to awarding the Contractor a contract covered by this Agreement. In the event the Contractor's alternate benefit plan(s), together with any cash supplement to the employee, is determined to be compliant with Section 220 and will be utilized by the Contractor on behalf of Article 4, Section 2(B) and (C) core employees, the Local Unions have no duty to enforce the Contractor's obligations on the alternate benefit plan(s) as they are not party to the alternate plan(s) or privy to the terms and conditions of the plan obligations. In the event the City determines the alternate benefit plan(s), together with any cash supplement to the employee, is not compliant with Section 220, the Contractor may, upon executing a Letter

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of Assent, satisfy its obligations for all employees, including core employees, by contributing to the Schedule A benefit plans in accordance with the terms of the Schedule A Agreements.

C. The Contractors agree to be bound by the written terms of the legally established jointly trustee Trust Agreements specifying the detailed basis on which payments are to be paid into, and benefits paid out of, such Trust Funds but only with regard to Program Work done under this Agreement and only for those employees to whom this Agreement requires such benefit payments.

D. 1. To the extent consistent with New York City's Procurement Policy Board Rules with respect to prompt payment, as published at www.nyc.gov/ppb, §4-06(e), and in consideration of the unions' waiver of their rights to withhold labor from a contractor or subcontractor delinquent in the payment of fringe benefits contributions ("Delinquent Contractor"); the Agency agrees that where any such union and/or fringe benefit fund shall notify the Agency, the General Contractor, and the Delinquent Contractor in writing with back-up documentation that the Delinquent Contractor has failed to make fringe benefit contributions to it as provided herein and the Delinquent Contractor shall fail, within ten (10) calendar days after receipt of such notice, to furnish either proof of such payment or notice that the amount claimed by the union and/or fringe benefit fund is in dispute, the Agency shall withhold from amounts then or thereafter becoming due and payable to the General Contractor an amount equal to that portion of such payment due to the General Contractor that relates solely to the work performed by

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the Delinquent Contractor which the union or fringe benefit fund claims to be due it, and shall remit the amount when and so withheld to the fringe benefit fund and deduct such payment from the amounts then otherwise due and payable to the General Contractor, which payment shall, as between the General Contractor and the Agency, be deemed a payment by the Agency to the General Contractor; provided however, that in any month, such withholding shall not exceed the amount contained in the General Contractor's monthly invoice for work performed by the Delinquent Contractor. The union or its employee benefit funds shall include in its notification of delinquent payment of fringe benefits only such amount it asserts the Delinquent Contractor failed to pay on the specific project against which the claim is made and the union or its employee benefit funds may not include in such notification any amount such Delinquent Contractor may have failed to pay on any other City or non-City project.

2. In addition, where a union or employee benefit fund gives notice to the City that a Contractor is Delinquent as defined in subsection 2(D)(1) above and the City determines that the notice includes appropriate back-up documentation that the Contractor is delinquent, the City will promptly, but not later than twenty (20) days after receipt of the notice, provide a copy of said notice to City Agencies. In the event the City determines there is insufficient back-up documentation, it will notify the appropriate union and/or fringe benefit fund promptly, but not later than twenty (20) days after receipt of the Delinquency Notice, and shall include notice of what additional documentation is requested. Any determination by the City that there is insufficient back-up must be reasonable. This provision is intended to enhance compliance with the prevailing wage

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law and the PLA with respect to the payment of fringe benefits, and is not intended as a substitute for the resolution of a disputed claim pursuant to any applicable law or agreement.

The City and the relevant Agency(s) will thereafter require the Delinquent Contractor to provide cancelled checks or other equivalent proof of payment of benefit contributions that have come due, to be submitted with certified payroll reports for all Program Work covered by this Agreement on which the Delinquent Contractor is engaged, for at least a one-year period or such earlier period if the Contractor is ultimately determined not be a Delinquent Contractor. Such proof of payment when required is a condition of payment of the Delinquent Contractor's invoices by any entity, including, but not limited to, the City, the relevant Agency(s), Construction Manager, General Contractor, the prime or higher level subcontractor, as is appropriate under the Delinquent Contractor's engagement. The union and the funds shall upon request receive copies of the certified payrolls, cancelled checks, or other proof of payment from the City and/or the relevant Agency(s).

E. In the event the General Contractor or Delinquent Contractor shall notify the Agency as above provided that the claim of the union or fringe benefit fund is in dispute, the Agency shall withhold from amounts then or thereafter becoming due and payable to the General Contractor an amount equal to that portion of such payment due to the General Contractor that relates solely to the work performed by the Delinquent Contractor that the union and/or fringe benefit fund claims to be due it, pending resolution of the dispute pursuant to the union's Schedule A agreement, and the amount shall be paid to the party or parties ultimately determined to be entitled thereto, or held until the

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Delinquent Contractor and union or employee benefit fund shall otherwise agree as to the disposition thereof; provided however, that such withholding shall not exceed the amount contained in the General Contractor's monthly invoice for work performed by the Delinquent Contractor. In the event the Agency shall be required to withhold amounts from a General Contractor for the benefit of more than one fringe benefit fund, the amounts so withheld in the manner and amount prescribed above shall be applied to or for such fund in the order in which the written notices of nonpayment have been received by the Agency, and if more than one such notice was received on the same day, proportionately based upon the amount of the union and/or fringe benefit fund claims received on such day. Nothing herein contained shall prevent the Agency from commencing an interpleader action to determine entitlement to a disputed payment in accordance with section one thousand six of the civil practice law and rules or any successor provision thereto.

F. Payment to a fringe benefit fund under this provision shall not relieve the General Contractor or Delinquent Contractor from responsibility for the work covered by the payment. Except as otherwise provided, nothing contained herein shall create any obligation on the part of the Agency to pay any union or fringe benefit fund, nor shall anything provided herein serve to create any relationship in contract or otherwise, implied or expressed, between the union/fund and/or fringe benefit and the Agency.

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ARTICLE 12- HOURS OF WORK, PREMIUM PAYMENTS,

SHIFTS AND HOLIDAYS

SECTION 1. WORK WEEK AND WORK DAY

A. The standard work week shall consist of 40 hours of work at straight time rates, Monday through Friday, 8 hours per day, plus ½ hour unpaid lunch period. The standard work week may be reduced to 35 or 37 ½ hours of work at straight time rates, Monday to Friday, 7 or 7 ½ hours per day, plus ½ hour unpaid lunch period in those limited circumstances where the City states in the bid documents that the Contractor will not be given access to the site to accommodate an 8 hour day. The 8 hour, 7 ½ hour or 7 hour work day must be established at the commencement of the project and may not be altered by the Contractor.

B. In accordance with Program needs, there shall be flexible start times with advance notice from Contractor to the Union. The Day Shift shall commence between the hours of 6:00 a.m. and 9:00 a.m. and shall end between the hours of 2:30 p.m. and 5:30 p.m., for an 8 hour day, and up to 7:30 p.m. for a 10 hour day. The Evening Shift shall commence between the hours of 3:00 p.m. and 6:00 p.m., unless different times are necessitated by the Agency's phasing plans on specific projects. The Night Shift shall commence between the hours of 11:00 p.m. and 2:00 a.m., unless different times are necessitated by the Agency's phasing plans on specific projects. Subject to the foregoing, starting and quitting times shall occur at the Program Work site designated by the Contractor.

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C. Scheduling — Except as provided above, Monday through Friday is the standard work week; 8 hours of work plus ½ hour unpaid lunch. Notwithstanding any other provision of this Agreement, a contractor may schedule a four day work week, 10 hours per day at straight time rates, plus a ½ hour unpaid lunch, at the commencement of the job.

D. Notice - Contractors shall provide not less than 5 days prior notice to the Local Union involved as to the work week and work hour schedules to be worked or such lesser notice as may be mutually agreed upon.

SECTION 2. OVERTIME

Overtime shall be paid for any work (i) over an employee's regularly scheduled work day, i.e., work over eight (8) hours in a day where 5/8s is scheduled, work over ten (10) hours in a day where 4/10s is scheduled, or work over seven (7) or seven and one half (7 ½) hours where such hours are scheduled pursuant to Article 12, section 1(A) and (ii) over forty (40) hours in a week, or over thirty five (35) or thirty seven and one-half (37 ½) where such hours are scheduled pursuant to Article 12, section 1(A). Overtime shall be paid at time and one half (1½) Monday through Saturday. All overtime work performed on Sunday and Holidays will be paid pursuant to the applicable Schedule A. There shall be no stacking or pyramiding of overtime pay under any circumstances. There will be no restriction upon the Contractor's scheduling of overtime or the nondiscriminatory designation of employees who shall be worked, including the use of employees, other than those who have worked the regular or scheduled work week, at straight time rates. The Contractor shall have the right to schedule work so as to minimize

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overtime or schedule overtime as to some, but not all, of the crafts and whether or not of a continuous nature.

SECTION 3. SHIFTS

A. Flexible Schedules - Scheduling of shift work, including Saturday and Sunday work, shall be within the discretion of the Contractor in order to meet Program Work schedules and existing Program Work conditions including the minimization of interference with the mission of the Agency. It is not necessary to work a day shift in order to schedule a second or third shift, or a second shift in order to schedule a third shift, or to schedule all of the crafts when only certain crafts or employees are needed. Shifts must have prior approval of the Agency or Construction Manager, and must be scheduled with not less than five work days notice to the Local Union or such lesser notice as may be mutually agreed upon.

B. Second and/or Third Shifts/Saturday and/or Sunday Work - - The second shift shall start between 3 p.m. and 6 p.m. and the third shift shall start between 11 p.m. and 2 a.m., subject to different times necessitated by the Agency phasing plans on specific projects. There shall be no reduction in shift hour work. With respect to second and third shift work there shall be a 5% shift premium. No other premium or other payments for such work shall be required unless such work is in excess of the employee's regularly scheduled work week, i.e., 40 hours in the week or thirty five (35) or thirty seven and one half (37 ½) pursuant to Article 12, section 1(A). All employees within a classification performing Program Work will be paid at the same wage rate regardless of the shift or work scheduled work, subject only to the foregoing provisions.

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C. Flexible Starting Times - Shift starting times will be adjusted by the Contractor as necessary to fulfill Program Work requirements subject to the notice requirements of paragraph A.

SECTION 4. HOLIDAYS

A. Schedule - There shall be nine (9) recognized holidays on the Project:

New Year's Day

Martin Luther King Day

Memorial Day

Labor Day

Independence Day

President's Day

Veteran's Day

Thanksgiving Day

Christmas Day

All said holidays shall be observed on the calendar date except those holidays which occur on Saturday shall be observed on the previous Friday and those that occur on Sunday shall be observed on the following Monday.

B. Payment - Regular holiday pay, if any, for work performed on such a recognized holiday shall be in accordance with the applicable Schedule A.

C. Exclusivity - No holidays other than those listed in Section 4(A) above shall be recognized or observed.

SECTION 5. SATURDAY MAKE-UP DAYS

When severe weather, power failure, fire or natural disaster or other similar circumstances beyond the control of the Contractor prevent work from being performed on

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a regularly scheduled weekday, the Contractor may schedule a Saturday make-up day and such time shall be scheduled and paid as if performed on a weekday. Any other Saturday work shall be paid at time and one-half (1½) . The Contractor shall notify the Local Union on the missed day or as soon thereafter as practicable if such a make-up day is to be worked.

SECTION 6. REPORTING PAY

A. Employees who report to the work location pursuant to their regular schedule and who are not provided with work shall be paid two hours reporting pay at straight time rates. An employee whose work is terminated early by a Contractor due to severe weather, power failure, fire or natural disaster or for similar circumstances beyond the Contractor's control, shall receive pay only for such time as is actually worked. In other instances in which an employee's work is terminated early (unless provided otherwise elsewhere in this Agreement), the employee shall be paid for his full shift. Contractors shall not be permitted to call, text or email or voicemail employees in advance of their regularly scheduled shift starting time to avoid reporting pay. Notwithstanding the above, in the event that the National Weather Service issues a weather advisory for the area in which the work location is situated, and the entire project is shut down as a result of the Weather Advisory, the contractor shall be permitted to speak to employees no less than four (4) hours in advance of their shift starting time, unless the Local Union consents to a shorter notice in writing, to advise them not to report to work due to the National Weather Service advisory, and employees who are so notified shall not receive two (2) hours reporting pay if they report to the work location. The contractor shall make every effort to

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notify each employee directly and confirm that notification has been received. Voice, text, and email messages left for employees without confirmation of delivery and receipt by employee do not constitute sufficient notice under this provision.

B. When an employee, who has completed their scheduled shift and left the Program Work site, is "called out" to perform special work of a casual, incidental or irregular nature, the employee shall receive overtime pay at the rate of time and one-half of the employee's straight time rate for hours actually worked.

C. When an employee leaves the job or work location of their own volition or is discharged for cause or is not working as a result of the Contractor's invocation of Section 7 below, they shall be paid only for the actual time worked.

D. Except as specifically set forth in this Article there shall be no premiums, bonuses, hazardous duty, high time or other special premium payments or reduction in shift hours of any kind.

E. There shall be no pay for time not actually worked except as specifically set forth in this Article and except where an applicable Schedule A requires a full weeks' pay for forepersons.

SECTION 7. PAYMENT OF WAGES

A. Termination- Employees who are laid off or discharged for cause shall be paid in full for that which is due them at the time of termination. The Contractor shall also provide the employee with a written statement setting forth the date of lay off or discharge.

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SECTION 8. EMERGENCY WORK SUSPENSION

A Contractor may, if considered necessary for the protection of life and/or safety of employees or others, suspend all or a portion of Program Work. In such instances, employees will be paid for actual time worked, except that when a Contractor requests that employees remain at the job site available for work, employees will be paid for that time at their hourly rate of pay.

SECTION 9. INJURY/DISABILITY

An employee who, after commencing work, suffers a work-related injury or disability while performing work duties, shall receive no less than a full day's pay in accordance with the employee's regularly scheduled work day under Article 12, section (1)(A). Further, the employee shall be rehired at such time as able to return to duties provided there is still Program Work available for which the employee is qualified and able to perform.

SECTION 10. TIME KEEPING

A Contractor may utilize brassing or other systems to check employees in and out. Each employee must check in and out. The Contractor will provide adequate facilities for checking in and out in an expeditious manner.

SECTION 11. MEAL PERIOD

A Contractor shall schedule an unpaid period of not more than 1/2 hour duration at the work location between the 3rd and 5th hour of the scheduled shift. A Contractor may, for efficiency of operation, establish a schedule which coordinates the meal periods of two or more crafts or which provides for staggered lunch periods within a

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craft or trade. If an employee is required to work through the meal period, the employee shall be compensated in a manner established in the applicable Schedule A.

SECTION 12. BREAK PERIODS

There will be no rest periods, organized coffee breaks or other non-working time established during working hours. Individual coffee containers will be permitted at the employee's work location. Where 4/10s are being worked there shall be a morning and an afternoon coffee break.

ARTICLE 13 - APPRENTICES

SECTION 1. RATIOS

Recognizing the need to maintain continuing supportive programs designed to develop adequate numbers of competent workers in the construction industry and to provide craft entry opportunities for minorities, women and economically disadvantaged non-minority males, Contractors will employ apprentices in their respective crafts to perform such work as is within their capabilities and which is customarily performed by the craft in which they are indentured. Contractors may utilize apprentices and such other appropriate classifications in the maximum ratio permitted by the New York State Department of Labor or the maximum allowed per trade. Apprentices and such other classifications as are appropriate shall be employed in a manner consistent with the provisions of the appropriate Schedule A. The parties encourage, as an appropriate source of apprentice recruitment consistent with the rules and operations of the affiliated unions' apprentice-programs, the use of the Edward J. Malloy Initiative for Construction Skills, Non-Traditional Employment for Women and Helmets to Hardhats.

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ARTICLE 14-SAFETY PROTECTION OF PERSON AND PROPERTY

SECTION 1. SAFETY REQUIREMENTS

Each Contractor will ensure that applicable OSHA and safety requirements are at all times maintained on the Program Work site and the employees and Unions agree to cooperate fully with these efforts to the extent consistent with their rights and obligations under the law. Employees will cooperate with employer safety policies and will perform their work at all times in a safe manner and protect themselves and the property of the Contractor and Agency from injury or harm, to the extent consistent with their rights and obligations under the law. Failure to do so will be grounds for discipline, including discharge.

SECTION 2. CONTRACTOR RULES

Employees covered by this Agreement shall at all times be bound by the reasonable safety, security, and visitor rules as established by the Contractors and the Construction Manager for this Program Work. Such rules will be published and posted in conspicuous places throughout the Program Work sites. Any site security and access policies established by the Construction Manager or General Contractor intended for specific application to the construction workforce for Program Work and that are not established pursuant to an Agency directive shall be implemented only after notice to the BCTC and its affiliates and an opportunity for negotiation and resolution by the Labor Management Committee.

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SECTION 3. INSPECTIONS

The Contractors and Construction Manager retain the right to inspect incoming shipments of equipment, apparatus, machinery and construction materials of every kind.

ARTICLE 15 - TEMPORARY SERVICES

Temporary services, i.e. all temporary heat, climate control, water, power and light, shall only be required upon the determination of the Agency or Construction Manager, and when used shall be staffed and assigned to the appropriate trade(s) with jurisdiction. Temporary services shall be provided by the appropriate Contractors' existing employees during working hours in which a shift is scheduled for employees of this Contractor. The Agency or Construction Manager may determine the need for temporary services requirements during non-working hours, and when used shall be staffed and assigned to the appropriate trades(s). There shall be no stacking of trades on temporary services, provided this does not constitute a waiver of primary trade jurisdiction. In the event a temporary system component is claimed by multiple trades, the matter shall be resolved through the New York Plan for Jurisdictional Disputes.

ARTICLE 16 - NO DISCRIMINATION

SECTION 1. COOPERATIVE EFFORTS

The Contractors and Unions agree that they will not discriminate against any employee or applicant for employment because of creed, race, color, religion, sex, sexual orientation, national origin, marital status, citizenship status, disability, age or any other status provided by law, in any manner prohibited by law or regulation.

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SECTION 2. LANGUAGE OF AGREEMENT

The use of the masculine or feminine gender in this Agreement shall be construed as including both genders.

ARTICLE 17- GENERAL TERMS

SECTION 1. PROJECT RULES

A. The Construction Manager and the Contractors shall establish such reasonable Program Work rules that are not inconsistent with this Agreement or rules common in the industry and are reasonably related to the nature of work. These rules will be explained at the pre-job conference and posted at the Program Work sites and may be amended thereafter as necessary. Notice of amendments will be provided to the appropriate Local Union. Failure of an employee to observe these rules and regulations shall be grounds for discipline, including discharge. The fact that no order was posted prohibiting a certain type of misconduct shall not be a defense to an employee disciplined or discharged for such misconduct when the action taken is for cause.

B. The parties adopt and incorporate the BCTC's Standards of Excellence as annexed hereto as Exhibit "B".

SECTION 2. TOOLS OF THE TRADE

The welding/cutting torch and chain fall are tools of the trade having jurisdiction over the work performed. Employees using these tools shall perform any of the work of the trade. There shall be no restrictions on the emergency use of any tools or equipment by any qualified employee or on the use of any tools or equipment for the performance of work within the employee's jurisdiction.

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SECTION 3. SUPERVISION

Employees shall work under the supervision of the craft foreperson or general foreperson.

SECTION 4. TRAVEL ALLOWANCES

There shall be no payments for travel expenses, travel time, subsistence allowance or other such reimbursements or special pay except as expressly set forth in this Agreement.

SECTION 5. FULL WORK DAY

Employees shall be at their work area at the starting time established by the Contractor, provided they are provided access to the work area. The signatories reaffirm their policy of a fair day's work for a fair day's wage.

SECTION 6. COOPERATION AND WAIVER

The Construction Manager, Contractors and the Unions will cooperate in seeking any NYS Department of Labor, or any other government, approvals that may be needed for implementation of any terms of this Agreement. In addition, the Council, on their own behalf and on behalf of its participating affiliated Local Unions and their individual members, intend the provisions of this Agreement to control to the greatest extent permitted by law, notwithstanding contrary provisions of any applicable prevailing wage, or other, law and intend this Agreement to constitute a waiver of any such prevailing wage, or other, law to the greatest extent permissible only for work within the scope of this Agreement, including specifically, but not limited to those provisions relating to shift, night, and similar differentials and premiums. This Agreement does not, however,

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constitute a waiver or modification of the prevailing wage schedules applicable to work not covered by this Agreement.

ARTICLE 18. SAVINGS AND SEPARABILITY

SECTION 1. THIS AGREEMENT

In the event that the application of any provision of this Agreement is enjoined, on either an interlocutory or permanent basis, or is otherwise determined to be in violation of law, or if such application may cause the loss of Program funding or any New York State Labor Law exemption for all or any part of the Program Work, the provision or provisions involved (and/or its application to particular Program Work, as necessary) shall be rendered, temporarily or permanently, null and void, but where practicable the remainder of the Agreement shall remain in full force and effect to the extent allowed by law (and to the extent no funding or exemption is lost), unless the part or parts so found to be in violation of law or to cause such loss are wholly inseparable from the remaining portions of the Agreement and/or are material to the purposes of the Agreement. In the event a court of competent jurisdiction finds any portion of the Agreement to trigger the foregoing, the parties will immediately enter into negotiations concerning the substance affected by such decision for the purpose of achieving conformity with the court determination and the intent of the parties hereto for contracts to be let in the future.

SECTION 2. THE BID SPECIFICATIONS

In the event that the Agency's (or Construction Manager's) bid specifications, or other action, requiring that a successful bidder (and subcontractor) become signatory to this Agreement is enjoined, on either an interlocutory or permanent

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basis, or is otherwise determined to be in violation of law, or may cause the loss of Program funding or any New York State Labor Law exemption for all or any part of the Program Work, such requirement (and/or its application to particular Program Work, as necessary) shall be rendered, temporarily or permanently, null and void, but where practicable the Agreement shall remain in full force and effect to the extent allowed by law and to the extent no funding or exemption is lost). In such event, the Agreement shall remain in effect for contracts already bid and awarded or in construction only where the Agency and Contractor voluntarily accepts the Agreement. The parties will enter into negotiations as to modifications to the Agreement to reflect the court or other action taken and the intent of the parties for contracts to be let in the future.

SECTION 3. NON-LIABILITY

In the event of an occurrence referenced in Section 1 or Section 2 of this Article, neither the Agency, the Construction Manager, any Contractor, nor any Union shall be liable, directly or indirectly, for any action taken, or not taken, to comply with any court order or injunction, other determination, or in order to maintain funding or a New York State Labor Law exemption for Program Work. Bid specifications will be issued in conformance with court orders then in effect and no retroactive payments or other action will be required if the original court determination is ultimately reversed.

SECTION 4. NON-WAIVER

Nothing in this Article shall be construed as waiving the prohibitions of Article 7 as to signatory Contractors and signatory Unions.

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ARTICLE 19 - FUTURE CHANGES IN SCHEDULE A AREA CONTRACTS

SECTION 1. CHANGES TO AREA CONTRACTS

A. Schedule A to this Agreement shall continue in full force and effect until the Contractor and/or Union parties to the Area Collective Bargaining Agreements that are the basis for the Schedule A notify the Agency and Construction Manager in writing of the changes agreed to in that Area Collective Bargaining which are applicable to work covered by this Agreement and their effective dates.

B. It is agreed that any provisions negotiated into Schedule A collective bargaining agreements will not apply to work under this Agreement if such provisions are less favorable to those uniformly required of contractors for construction work normally covered by those agreements; nor shall any provision be recognized or applied on Program Work if it may be construed to apply exclusively, or predominantly, to work covered by this Agreement.

C. Any disagreement between signatories to this Agreement over the incorporation into Schedule A of provisions agreed upon in the renegotiation of Area Collective Bargaining Agreements shall be resolved in accordance with the procedure set forth in Article 9 of this Agreement.

SECTION 2. LABOR DISPUTES DURING AREA CONTRACT NEGOTIATIONS

The Unions agree that there will be no strikes, work stoppages, sympathy actions, picketing, slowdowns or other disruptive activity or other violations of Article 7 affecting the Program Work by any Local Union involved in the renegotiation of Area

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Local Collective Bargaining Agreements nor shall there be any lock-out on such Program Work affecting a Local Union during the course of such renegotiations.

ARTICLE 20 - WORKERS' COMPENSATION ADR

SECTION 1.

An ADR program may be negotiated and participation in the ADR Program will be optional by trade.

ARTICLE 21 - HELMETS TO HARDHATS

SECTION 1.

The Contractors and the Unions recognize a desire to facilitate the entry into the building and construction trades of veterans who are interested in careers in the building and construction industry. The Contractors and Unions agree to utilize the services of the New York City Helmets to Hardhats Program to serve as a resource for preliminary orientation, assessment of construction aptitude, referral to apprenticeship programs or hiring halls, counseling and mentoring, support network, employment opportunities and other needs as identified by the parties.

SECTION 2.

The Unions and Contractors agree to coordinate with the Program to create and maintain an integrated database of veterans interested in working on this Project and of

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apprenticeship and employment opportunities for this Project. To the extent permitted by law, the Unions will give credit to such veterans for bona fide, provable past experience.

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IN WITNESS WHEREOF the parties have caused this Agreement to be executed and
effective as of the ____ day of _____, ____

FOR BUILDING AND CONSTRUCTION TRADES COUNCIL
OF GREATER NEW YORK AND VICINITY

BY: _____
Gary LaBarbera
President

FOR NEW YORK CITY

BY: _____
Anthony Shorris
First Deputy Mayor

APPROVED AS TO FORM:

ACTING CORPORATION COUNSEL
NEW YORK CITY

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LIST OF SIGNATORY UNIONS
Boiler Makers Local No. 5
Carpenters District Council
Cement Masons No. 780
Concrete Workers, District Council No. 16
Derrickmen and Riggers, Local Union No. 197
Drywall Tapers 1974, District Council 9
Electrical Workers Local No. 3
Glaziers Local Union No. 1087 District Council 9
Heat & Frost Insulators, Local Union No. 12A
Heat & Frost Insulators, Local Union No. 12
Iron Workers District Council
Iron Workers Local Union No. 40
Iron Workers Local No. 361
Laborers Local No. 78, Asbestos & Lead Abatement
Laborers Local 1010 Pavers and Road Builders District Council
Laborers 79 Construction and General Building Laborers
Laborers Local No. 731 Excavators
Mason Tenders District Council
Metal Lathers Local No. 46
Metal Polishers District Council 9
Ornamental Iron Workers Local No. 580
Painters District Council 9
Plumbers Local No. 1
Painters, Decorators & Wallcoverers District Council 9
Painters Structural Steel No. 806
Plasterers Local Union No. 262
Roofers & Waterproofers Local 8
Steamfitters Local Union No. 638
Sheet Metal Workers Local No. 28
Sheet Metal Workers Local No. 137
Teamsters Local Union No. 282
Teamsters Local Union 814
Teamsters Local No. 813 Private Sanitation
Tile, Marble & Terrazzo B.A.C. Local Union No. 7
Elevator Constructors Union Local No. 1

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SCHEDULE "A"

Union	Current Agreement w/
Architectural and Ornamental Iron Workers Local Union 580, AFL-CIO	Allied Building Metal Industries, Inc.
Building, Concrete, Excavating & Common Laborers Local 731	Independent
Building, Concrete, Excavating & Common Laborers Local 731	Members of the General Contractors Association of New York, Inc.
District Council No. 9, I.U.P.A.T Glaziers Local 1087	Window and Plate Glass Dealers Association
Drywall Tapers and Pointers Local 1974, affiliated with International Union of Painters & Allied Trades and Drywall Taping Contractor's Association & Association of Wall-Ceiling & Carpentry Industries NY, Inc.	Independent
Enterprise Association of Steamfitters and Apprentices Local 638	Mechanical Contractors Association of NY, Inc.
Enterprise Association of Steamfitters and Apprentices Local 638	Independent
Highway Road and Street Laborers Local Union 1010 of the District Council of Pavers and Road Builders of the Laborers' International Union of North America AFL-CIO	Independent
Highway Road and Street Laborers Local Union 1010 of the District Council of Pavers and Road Builders of the Laborers' International Union of North America AFL-CIO	Member of the General Contractors Association of New York, Inc.
International Association of Heat and Frost Insulators and Allied Workers Local No. 12 of New York City	Independent
International Association of Heat and Frost Insulators and Allied Workers Local No. 12 of New York City	The Insulation Contractors Association of New York City, Inc.
International Association of Heat and Frost Insulators and Allied Workers Local No. 12A of New York City	Independent

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International Association of Heat and Frost Insulators and Allied Workers Local No. 12A of New York City	Environmental Contractors Association, Inc.
International Brotherhood of Boilermakers, Iron Ship Builders, Blacksmiths, Forgers and Helpers, AFL-CIO, Local Lodge No. 5	Boilermakers Association of Greater New York
Local Union No. 3 International Brotherhood of Electrical Workers, AFL-CIO	New York Electrical Contractors Association
International Brotherhood of Teamsters, Local 282, High Rise contract	Building Contractors Association & Independents
Local 46 Metallic Lathers Union and Reinforcing Iron Workers of NY and Vicinity of the International Association of Bridge, Structural, Ornamental and Reinforcing Iron Workers	Cement League
Local 46 Metallic Lathers Union and Reinforcing Iron Workers of NY and Vicinity of the International Association of Bridge, Structural, Ornamental and Reinforcing Iron Workers	Independent
Local 8 Roofers, Waterproofers & Allied Workers	Roofing and Waterproofing Contractors Association of New York and Vicinity
Local Union 1 of the United Association of Journeymen and Apprentices of the Pipe Fitting Industry of the United States and Canada	Association of Contracting Plumbers of the City of New York
Local Union Number 40 & 361 of Bridge, Structural Ornamental and Reinforcing Iron Workers AFL-CIO	Independent
Operative Plasterers' and Cement Masons' International Association Local No. 262	Independent
Painters and Allied Trades AFL-CIO, District Council No. 9 (Painting and Protective Coatings CBA)	Independent

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Painters and Allied Trades AFL-CIO, District Council No. 9 (Painting and Protective Coatings CBA)	The Association of Master Painters & Decorators of NY, Inc. and The Association of Wall, Ceiling & Carpentry Industries of NY, Inc. and The Window and Plate Glass Dealers Association
Sheet Metal Workers' International Association, Local 28	Sheet Metal & Air Conditioning Contractors Association of New York City, Inc.
Sheet Metal Workers' International Association, Local 137	The Greater New York Sign Association
Structural Steel and Bridge Painters Local 806, DC 9 International Union of Painters and Allied Trades, AFL-CIO	New York Structural Steel Painting Contractors Association
Teamsters Local 813	Independent
Teamsters Local 813	IESI NY Corporation
Teamsters Local 814	Greater New York Movers and Warehousemen's Bargaining Group
The Cement Masons' Union, Local 780	Cement League
The District Council of Cement and Concrete Workers (comprised of Local 6A; Local 18A and Local 20)	Cement League
The District Council of Cement and Concrete Workers (comprised of Local 6A; Local 18A and Local 20)	Independent

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The District Council of New York City and Vicinity of the United Brotherhood of Carpenters and Joiners of America for Heavy Carpenters	GCA
The District Council of New York City and Vicinity of the United Brotherhood of Carpenters and Joiners of America for Dockbuilders Local No. 1556	Concrete Contractors of NY
The District Council of New York City and Vicinity of the United Brotherhood of Carpenters and Joiners of America for Dockbuilders Local 1556	Independent
The District Council of New York City and Vicinity of the United Brotherhood of Carpenters and Joiners of America for Millwright Local 740	Independent
The District Council of New York City and Vicinity of the United Brotherhood of Carpenters and Joiners of America for Timbermen Local 1556	Independent
The District Council of New York City and Vicinity of the United Brotherhood of Carpenters and Joiners of America for Timbermen Local 1556	GCA
The District Council of New York City and Vicinity of the United Brotherhood of Carpenters and Joiners of America for Heavy Carpenters	Independent
The District Council of New York City and Vicinity of the United Brotherhood of Carpenters and Joiners of America for Carpenters	Manufacturing Woodworkers Association of Greater New York Incorporated
The District Council of New York City and Vicinity of the United Brotherhood of Carpenters and Joiners of America	The Hoisting Trade Association of New York, Inc.
The District Council of New York City and Vicinity of the United Brotherhood of Carpenters and Joiners of America	The Test Boring Association

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The District Council of New York City and Vicinity of the United Brotherhood of Carpenters and Joiners of America	Building Contractors Association
The District Council of New York City and Vicinity of the United Brotherhood of Carpenters and Joiners of America	The Association of Wall-Ceiling & Carpentry Industries of New York, Incorporated
The District Council of New York City and Vicinity of the United Brotherhood of Carpenters and Joiners	The Cement League
The District Council of NYC and Vicinity of the United Brotherhood of Carpenters and Joiners of America	New York City Millwright Association
The District Council of New York City and Vicinity of the United Brotherhood of Carpenters and Joiners	Greater New York Floor Covering Association
The District Council of New York City and Vicinity of the United Brotherhood of Carpenters and Joiners of America for Carpenters	Association of Architectural Metal & Glass
The District Council of New York City and Vicinity of the United Brotherhood of Carpenters and Joiners of America for Carpenters	Concrete Contractors of NY
The District Council of New York City and Vicinity of the United Brotherhood of Carpenters and Joiners of America for Building Construction Carpenters	Independent
The District Council of New York City and Vicinity of the United Brotherhood of Carpenters and Joiners of America for Local 2287	Independent
The District Council of New York City and Vicinity of the United Brotherhood of Carpenters and Joiners of America for Shop Carpenters	Independent
The Tile Setters and Tile Finishers Union of New York and New Jersey, Local 7 of the International Bricklayers and Allied Craftworkers	The Greater New York and New Jersey Contractors Association

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United Derrickmen & Riggers Association, Local 197 of NY, LI, Westchester & Vicinity	Contracting Stonesetters Association Inc.
United Derrickmen & Riggers Association L 197 of NY, LI, Westchester and Vicinity	Building Stone and Pre-cast Contractors Association
International Union of Operating Engineers Local 14-14B	Building Contractors Association
International Union of Operating Engineers Local 14-14B	Contractors Association of Greater NY
International Union of Operating Engineers Local 14-14B	GCA
International Union of Operating Engineers Local 14-14B	The Cement League
International Union of Operating Engineers Local 14-14B	Allied Building Metal Industries, Inc.
International Union of Operating Engineers Local 14-14B	Brick Association
International Union of Operating Engineers Local 14-14B	Independent
International Union of Operating Engineers Local 15	Allied Building Metal Industries, Inc.
International Union of Operating Engineers Local 15-15A	General Contractors Association
International Union of Operating Engineers Local 15D	General Contractors Association
International Union of Operating Engineers Local 15D	Structural Steel Erectors

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International Union of Operating Engineers Local 15-15A	Building Contractors Association
International Union of Operating Engineers Local 15D	Building Contractors Association
International Union of Operating Engineers Local 15-15A	Contractors Association of Greater NY
International Union of Operating Engineers Local 15D	Contractors Association of Greater NY
International Union of Operating Engineers Local 15-15A	The Cement League
International Union of Operating Engineers Local 15D	The Cement League

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ADDITIONAL PARTICIPATING UNIONS

Local No. 1 New York of the International Union of Bricklayers and Allied Craft Workers

ADDITIONAL PARTICIPATING UNION SCHEDULE A

Union	Current Agreement with:
Local No. 1 New York of the International Union of Bricklayers and Allied Craft Workers	Independent
Local No. 1 New York of the International Union of Bricklayers and Allied Craft Workers	Associated Brick Masons Contractors
Local No. 1 New York of the International Union of Bricklayers and Allied Craft Workers	Building Restoration Contractors Association
Local No. 1 New York of the International Union of Bricklayers and Allied Craft Workers	Building Contractors Association
The Stone Setters of Local No. 1 New York of the International Union of Bricklayers and Allied Craft Workers	Independent
The Plasterers of Local No. 1 New York of the International Union of Bricklayers and Allied Craft Workers	Independent

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Project Labor Agreement - - Letter of Assent

Dear:

The undersigned party confirms that it agrees to be a party to and be bound by the New York Agency, Project Labor Agreement as such Agreement may, from time to time, be amended by the parties or interpreted pursuant to its terms. The terms of the Project Labor Agreement, its Schedules, Addenda and Exhibits are hereby incorporated by reference herein.

The undersigned, as a Contractor or Subcontractor (hereinafter Contractor) on the Project known as _____ and located at _____ (hereinafter PROJECT), for and in consideration of the award to it of a contract to perform work on said PROJECT, and in further consideration of the mutual promises made in the Project Labor Agreement, a copy of which was received and is acknowledged, hereby:

- (1) Accepts and agrees to be bound by the terms and conditions of the Agreement, together with any and all schedules; amendments and supplements now existing or which are later made thereto:
- (2) Agrees to be bound by the legally established collective bargaining agreements; local trust agreements for employee benefit funds; and trust documents for joint apprentice programs as well as apprentice program rules and procedures but only to the extent of Program Work and as required by the PLA.
- (3) Authorizes the parties to such local trust agreements to appoint trustees and successor trustees to administer the trust funds and hereby ratifies and accepts the trustees so appointed as if made by the Contractor but only to the extent of Program Work as required by the PLA.
- (4) Certifies that it has no commitments or agreements that would preclude its full and complete compliance with the terms and conditions of said Agreement. The Contractor agrees to employ labor that can work in harmony with all other labor on the Project and shall require labor harmony from every lower tier subcontractor it has engaged or may engage to work on the Project. Labor harmony disputes/issues shall be subject to the Labor Management Committee provisions.
- (5) Agrees to secure from any Contractor(s) (as defined in said Agreement) which is or becomes a Subcontractor (of any tier), to it, a duly executed Agreement to be Bound in from identical to this document.

Provide description of the Work, identify craft jurisdiction(s) and all contract numbers below:

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Dated: _____

(Name of Contractor or subcontractor)

(Name of CM; GC; Contractor or
Higher Level Subcontractor)

(Authorized Officer & Title)

(Address)

(Phone) (Fax)

Contractor's State License

Sworn to before me this
____ day of _____,

Notary Public

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**NEW YORK CITY BUILDING AND CONSTRUCTION TRADES COUNCIL
STANDARDS OF EXCELLENCE**

The purpose of this Standard of Excellence is to reinforce the pride of every construction worker and the commitment to be the most skilled, most productive and safest workforce available to construction employers and users in the City of New York. It is the commitment of every affiliated local union to use our training and skills to produce the highest quality work and to exercise safe and productive work practices.

The rank and file members represented by the affiliated local unions acknowledge and adopt the following standards:

- *Provide a full days work for a full days pay;*
- *Safely work towards the timely completion of the job;*
- *Arrive to work on time and work until the contractual quitting time;*
- *Adhere to contractual lunch and break times;*
- *Promote a drug and alcohol free work site;*
- *Work in accordance with all applicable safety rules and procedures;*
- *Allow union representatives to handle job site disputes and grievances without resort to slowdowns, or unlawful job disruptions;*
- *Respect management directives that are safe, reasonable and legitimate;*
- *Respect the rights of co-workers;*
- *Respect the property rights of the owner, management and contractors.*

The Unions affiliated with the New York City Building and Construction Trades Council will expect the signatory contractors to safely and efficiently manage their jobs and the unions see this as a corresponding obligation of the contractors under this Standard of Excellence. The affiliated unions will expect the following from its signatory contractors:

- *Management adherence to the collective bargaining agreements;*
- *Communication and cooperation with the trade foremen and stewards;*
- *Efficient, safe and sanitary management of the job site;*
- *Efficient job scheduling to mitigate and minimize unproductive time;*
- *Efficient and adequate staffing by properly trained employees by trade;*
- *Efficient delivery schedules and availability of equipment and tools to ensure efficient job progress;*
- *Ensure proper blueprints, specifications and layout instructions and material are available in a timely manner*
- *Promote job site dispute resolution and leadership skills to mitigate such disputes;*
- *Treatment of all employees in a respectful and dignified manner acknowledging their contributions to a successful project.*

The affiliated unions and their signatory contractors shall ensure that both the rank and file members and the management staff shall be properly trained in the obligations undertaken in the Standard of Excellence.

NYC AGENCY RENOVATION & REHAB CITY OWNED BUILDINGS/STRUCTURES PLA



Codes of Conduct

BuildSafeNYC establishes that all BTEA member companies and BCTC member unions establish minimum safety standards on all building construction projects in NYC as follows:

- The workforce shall adhere to the minimum personal protective equipment (PPE) usage to include:
 - ANSI compliant Hard Hats (with ratchet suspension) at all times (supplied by employer)
 - Construction-type Work Boots at all times
 - Long Pants and shirts with at least short sleeves at all times (no shorts or tank tops)
 - ANSI compliant Eye Protection in their possession and used as needed (supplied by employer)
 - Adequate Hearing Protection in their possession and used as needed (supplied by employer)
 - High-vis traffic vests at street level and when around heavy equipment (supplied by employer)
- CM and Subcontractor management shall implement a fair and consistent disciplinary policy for all site personnel regarding the adherence to site safety rules and requirements. Likewise, a joint labor / management team will periodically assess project wide implementation of these Codes.
- CM firms shall maintain minimum standards for workforce restroom, hygiene facilities and housekeeping, initially and throughout the duration of the project.
- All personnel shall adhere to a strict policy against drug and alcohol possession and use on sites and during hours of work.
- All personnel shall attend a site safety orientation prior to beginning work. Worker certifications of safety training for specific tasks such as fire watch, flagmen, and safety attendant must be verified.
- No cell phones, portable media devices, radios or other devices that limit hearing and attention shall be used while working on sites.
- Ground Fault Circuit Interrupters (GFCI) will be used on all power tools and extension cords.
- Union trade representatives shall participate in a regularly scheduled site safety meeting on all projects regardless of size.
- Extreme effort shall be made to isolate the public from all construction activity. Specifically, systems shall be put in place to control falling materials and pedestrian exposure. This should be a top priority for the entire project workforce.
- Workers shall honor security access control systems to establish entry to sites by authorized personnel only, where applicable.
- Fall protection management shall be a top project priority. Workers shall maintain and use necessary fall protection systems and procedures where appropriate. Engineering controls and work methods which eliminate, guard, or otherwise control fall hazards shall take priority over personal fall arrest system usage.
- Where hazardous materials are present, projects shall implement efforts to communicate and control potential exposure to the workforce.

With Full Support and Endorsement of:

Louis J. Colitti

Louis J. Colitti, President & CEO
Building Trades Employers' Association
BTEANYC
Building Trades Employers' Association

Edward J. Malloy

Edward J. Malloy, President
Building and Construction Trades Council



James Abadio
Boyle Construction
John P. Pappas
Pappas Construction
Tommy Tomp
H&H Construction

Paula Pappas
Turner Construction
John Pappas
Gordon Construction

Shirley H. H. H.
Skanska USA Building
Shirley H. H. H.
Skanska USA Building

David H. H.
Tishman
David H. H.
CAVSWELL AVIATION

James Abadio
Boyle Construction
John P. Pappas
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Tommy Tomp
H&H Construction
James Abadio
Boyle Construction
John P. Pappas
Pappas Construction
Tommy Tomp
H&H Construction

Paula Pappas
Turner Construction
John Pappas
Gordon Construction
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Shirley H. H. H.
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Shirley H. H. H.
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NOTICE TO BIDDERS

Please be advised that the City of New York has issued a new Standard Construction Contract. The new Contract, which is incorporated in this bid, is significantly different from the 2008 version previously used by the City. A listing of some of the significant changes is provided below. This notice is only a partial listing. Please refer to the Contract itself for a full understanding of the changes and the actual text of the changes that were made. The text of the revised Standard Construction Contract is the controlling document should there be any discrepancies between this notice and the Standard Construction Contract.

Significant changes include the following:

ARTICLE 11 DAMAGES CAUSED BY DELAYS

In 2008, the City embarked on a pilot project to test the use of new construction contract language altering the allocation of the risk of project delays, as between the City and the contractor. The City has determined to make the pilot project language the standard language for all City construction contracts. Accordingly, there is now one Standard City Construction Contract that it to be used by all agencies for all bids released after the release of the new contract. The damages for delay language is Article 11. Please note that changes have been made to the damages for delay provisions from the pilot to the adopted version.

ARTICLE 22 INSURANCE

Changes have been made to the insurance provisions, including incorporating requirements that the insurance provided comply with recent NYC Department of Buildings regulations specifying required dollar limits for CGL insurance for certain projects and requiring proof of builder's risk insurance prior to Work commencing rather than within 10 days of award.

ARTICLE 26 EXTRA WORK

The percentage paid for overhead for Extra Work pursuant to Section 26.1.11 is increased from 10% to 12% and the calculation of Worker's Compensation insurance costs reimbursed for Extra Work has been clarified.

**ARTICLE 37 LABOR LAW REQUIREMENTS
ARTICLE 38 PAYROLL REPORTS**

The provisions governing Labor Law provisions have been tightened, including requirements the employee identification cards include a photo (unless the requirement is waived), a prohibition on cash payments to employees and subcontractors, and clear enforcement authority requirements.

ARTICLE 70 ELECTRONIC FILING

A provision is added to make mandatory the electronic filing of certain alteration permits with the Department of Buildings.

Other significant changes include the following:

ARTICLE 7 INDEMNIFICATION

Changes have been made to the indemnification provisions.

**ARTICLE 14 FINAL ACCEPTANCE OF WORK
ARTICLE 44 SUBSTANTIAL COMPLETION PAYMENT**

The Commissioner is no longer required to issue a substantial completion determination in addition to the already existing requirement that the Engineer issue a substantial completion determination and reach an agreement on a punch list of remaining work. Now, the Engineer, when issuing the punch list to the Contractor, must also include a proposed schedule for the completion of the punch list. The Contractor may propose an alternative schedule that is subject to the approval of the Engineer. If the Contractor fails to respond to the Engineer's proposed schedule, the Engineer's schedule is deemed accepted.

ARTICLE 15 LIQUIDATED DAMAGES

The contract is revised to match Schedule A to provide that liquidated damages are available only until substantial completion.

ARTICLE 17 SUBCONTRACTS

The requirements for prior approval of subcontractors, and for contractors to be responsible for the actions of their subcontractors, have been tightened. The requirement that the Contractor list subcontractors in the City's Payee Information Portal has been added; the provision was previously attached as a rider.

ARTICLE 19 SECURITY DEPOSIT

The provisions governing the return of bid deposits are clarified.

ARTICLE 20 PAYMENT GUARANTEE

The Payment Guaranty provisions, which apply when the City does not require the Contractor to obtain payment bonds, has been significantly revised to track the requirements of State Finance law 137.

ARTICLE 28 RECORDKEEPING FOR EXTRA OR DISPUTED WORK

The recordkeeping requirement that currently apply to payments for Time & Materials for extra work are expressly made applicable to regular work that is paid for on a T & M basis.

ARTICLE 35 EMPLOYEES

The whistleblower provisions of local law are added to the construction contract. They previously have been attached as a rider.

ARTICLE 38 PAYROLL REPORTS ARTICLE 77 RECORDS RETENTION

Requirements that records be maintained for six years and directions on how such records must be made available.

ARTICLE 42 PARTIAL PAYMENTS

Increased flexibility has been provided for when contractors may submit invoices.

ARTICLE 62 TAX EXEMPTION

The provisions identifying the State tax exemption for municipalities are revised to more clearly describe State law.

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NEW YORK CITY STANDARD CONSTRUCTION CONTRACT (DEC. 2013)
INSURANCE RIDER

The following provisions supersede the corresponding provisions in the December 2013 version of the New York City Standard Construction Contract:

1. Section 22.1.1(c) provides as follows:

22.1.1(c) If the **Work** requires a permit from the Department of Buildings pursuant to 1 RCNY Section 101-08, the **Contractor** shall provide Commercial General Liability Insurance with limits of at least those required by 1 RCNY section 101-08 or greater limits provided by the Agency in Schedule A. If the Work does not require such a permit, the minimum limits shall be those provided for in Schedule A.

2. Section 22.3.3 provides as follows:

22.3.3 For policies provided pursuant to all of Article 22.1 other than Article 22.1.2, the **Contractor** shall submit one or more Certificates of Insurance on forms acceptable to the **Commissioner**. All such Certificates of Insurance shall certify (a) the issuance and effectiveness of such policies of insurance, each with the specified minimum limits (b) for insurance secured pursuant to Article 22.1.1 that the **City** and any other entity specified in Schedule A is an Additional Insured thereunder; (c) in the event insurance is required pursuant to Article 22.1.6 and/or Article 22.1.7, that the **City** is an Additional Insured thereunder; and (d) the company code issued to the insurance company by the National Association of Insurance Commissioners (the NAIC number). All such Certificates of Insurance shall be accompanied by the required additional insured endorsements and either a duly executed "Certification by Insurance Broker or Agent" in the form contained in Part III of Schedule A or copies of all policies referenced in such Certificate of Insurance as certified by an authorized representative of the issuing insurance carrier. If any policy is not available at the time of submission, certified binders may be submitted until such time as the policy is available, at which time a certified copy of the policy shall be submitted.

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PAID SICK LEAVE LAW CONTRACT RIDER

Introduction and General Provisions

The Earned Sick Time Act, also known as the Paid Sick Leave Law ("PSLL"), requires covered employees who annually perform more than 80 hours of work in New York City to be provided with paid sick time.¹ Contractors of the City of New York or of other governmental entities may be required to provide sick time pursuant to the PSLL.

The PSLL became effective on April 1, 2014, and is codified at Title 20, Chapter 8, of the New York City Administrative Code. It is administered by the City's Department of Consumer Affairs ("DCA"); DCA's rules promulgated under the PSLL are codified at Chapter 7 of Title 6 of the Rules of the City of New York ("Rules").

Contractor agrees to comply in all respects with the PSLL and the Rules, and as amended, if applicable, in the performance of this agreement. Contractor further acknowledges that such compliance is a material term of this agreement and that failure to comply with the PSLL in performance of this agreement may result in its termination.

Contractor must notify the Agency Chief Contracting Officer of the City agency or other entity with whom it is contracting in writing within ten (10) days of receipt of a complaint (whether oral or written) regarding the PSLL involving the performance of this agreement. Additionally, Contractor must cooperate with DCA's education efforts and must comply with DCA's subpoenas and other document demands as set forth in the PSLL and Rules.

The PSLL is summarized below for the convenience of Contractor. Contractor is advised to review the PSLL and Rules in their entirety. On the website www.nyc.gov/PaidSickLeave there are links to the PSLL and the associated Rules as well as additional resources for employers, such as Frequently Asked Questions, timekeeping tools and model forms, and an event calendar of upcoming presentations and webinars at which Contractor can get more information about how to comply with the PSLL. Contractor acknowledges that it is responsible for compliance with the PSLL notwithstanding any inconsistent language contained herein.

Pursuant to the PSLL and the Rules:

Applicability, Accrual, and Use

An employee who works within the City of New York for more than eighty hours in any consecutive 12-month period designated by the employer as its "calendar year" pursuant to the PSLL ("Year") must be provided sick time. Employers must provide a minimum of one hour of sick time for every 30 hours worked by an employee and compensation for such sick time must

¹ Pursuant to the PSLL, if fewer than five employees work for the same employer, as determined pursuant to New York City Administrative Code §20-912(g), such employer has the option of providing such employees uncompensated sick time.

be provided at the greater of the employee's regular hourly rate or the minimum wage. Employers are not required to provide more than forty hours of sick time to an employee in any Year.

An employee has the right to determine how much sick time he or she will use, provided that employers may set a reasonable minimum increment for the use of sick time not to exceed four hours per day. In addition, an employee may carry over up to forty hours of unused sick time to the following Year, provided that no employer is required to allow the use of more than forty hours of sick time in a Year or carry over unused paid sick time if the employee is paid for such unused sick time and the employer provides the employee with at least the legally required amount of paid sick time for such employee for the immediately subsequent Year on the first day of such Year.

An employee entitled to sick time pursuant to the PSLL may use sick time for any of the following:

- such employee's mental illness, physical illness, injury, or health condition or the care of such illness, injury, or condition or such employee's need for medical diagnosis or preventive medical care;
- such employee's care of a family member (an employee's child, spouse, domestic partner, parent, sibling, grandchild or grandparent, or the child or parent of an employee's spouse or domestic partner) who has a mental illness, physical illness, injury or health condition or who has a need for medical diagnosis or preventive medical care;
- closure of such employee's place of business by order of a public official due to a public health emergency; or
- such employee's need to care for a child whose school or childcare provider has been closed due to a public health emergency.

An employer must not require an employee, as a condition of taking sick time, to search for a replacement. However, an employer may require an employee to provide: reasonable notice of the need to use sick time; reasonable documentation that the use of sick time was needed for a reason above if for an absence of more than three consecutive work days; and/or written confirmation that an employee used sick time pursuant to the PSLL. However, an employer may not require documentation specifying the nature of a medical condition or otherwise require disclosure of the details of a medical condition as a condition of providing sick time and health information obtained solely due to an employee's use of sick time pursuant to the PSLL must be treated by the employer as confidential.

If an employer chooses to impose any permissible discretionary requirement as a condition of using sick time, it must provide to all employees a written policy containing those requirements, using a delivery method that reasonably ensures that employees receive the policy. If such employer has not provided its written policy, it may not deny sick time to an employee because of non-compliance with such a policy.

Sick time to which an employee is entitled must be paid no later than the payday for the next regular payroll period beginning after the sick time was used.

Exemptions and Exceptions

Notwithstanding the above, the PSLL does not apply to any of the following:

- an independent contractor who does not meet the definition of employee under section 190(2) of the New York State Labor Law;
- an employee covered by a valid collective bargaining agreement in effect on April 1, 2014 until the termination of such agreement;
- an employee in the construction or grocery industry covered by a valid collective bargaining agreement if the provisions of the PSLL are expressly waived in such collective bargaining agreement;
- an employee covered by another valid collective bargaining agreement if such provisions are expressly waived in such agreement and such agreement provides a benefit comparable to that provided by the PSLL for such employee;
- an audiologist, occupational therapist, physical therapist, or speech language pathologist who is licensed by the New York State Department of Education and who calls in for work assignments at will, determines his or her own schedule, has the ability to reject or accept any assignment referred to him or her, and is paid an average hourly wage that is at least four times the federal minimum wage;
- an employee in a work study program under Section 2753 of Chapter 42 of the United States Code;
- an employee whose work is compensated by a qualified scholarship program as that term is defined in the Internal Revenue Code, Section 117 of Chapter 20 of the United States Code; or
- a participant in a Work Experience Program (WEP) under section 336-c of the New York State Social Services Law.

Retaliation Prohibited

An employer may not threaten or engage in retaliation against an employee for exercising or attempting in good faith to exercise any right provided by the PSLL. In addition, an employer may not interfere with any investigation, proceeding, or hearing pursuant to the PSLL.

Notice of Rights

An employer must provide its employees with written notice of their rights pursuant to the PSLL. Such notice must be in English and the primary language spoken by an employee, provided that DCA has made available a translation into such language. Downloadable notices are available on DCA's website at <http://www.nyc.gov/html/dca/html/law/PaidSickLeave.shtml>.

Any person or entity that willfully violates these notice requirements is subject to a civil penalty in an amount not to exceed fifty dollars for each employee who was not given appropriate notice.

Records

An employer must retain records documenting its compliance with the PSLL for a period of at least three years, and must allow DCA to access such records in furtherance of an investigation related to an alleged violation of the PSLL.

Enforcement and Penalties

Upon receiving a complaint alleging a violation of the PSLL, DCA has the right to investigate such complaint and attempt to resolve it through mediation. Within 30 days of written notification of a complaint by DCA, or sooner in certain circumstances, the employer must provide DCA with a written response and such other information as DCA may request. If DCA believes that a violation of the PSLL has occurred, it has the right to issue a notice of violation to the employer.

DCA has the power to grant an employee or former employee all appropriate relief as set forth in New York City Administrative Code 20-924(d). Such relief may include, among other remedies, treble damages for the wages that should have been paid, damages for unlawful retaliation, and damages and reinstatement for unlawful discharge. In addition, DCA may impose on an employer found to have violated the PSLL civil penalties not to exceed \$500 for a first violation, \$750 for a second violation within two years of the first violation, and \$1,000 for each succeeding violation within two years of the previous violation.

More Generous Policies and Other Legal Requirements

Nothing in the PSLL is intended to discourage, prohibit, diminish, or impair the adoption or retention of a more generous sick time policy, or the obligation of an employer to comply with any contract, collective bargaining agreement, employment benefit plan or other agreement providing more generous sick time. The PSLL provides minimum requirements pertaining to sick time and does not preempt, limit or otherwise affect the applicability of any other law, regulation, rule, requirement, policy or standard that provides for greater accrual or use by employees of sick leave or time, whether paid or unpaid, or that extends other protections to employees. The PSLL may not be construed as creating or imposing any requirement in conflict with any federal or state law, rule or regulation.

HIRING AND EMPLOYMENT RIDER:
HIRENYC AND REPORTING REQUIREMENTS

Introduction

This Rider shall apply to all contracts for goods, services, and construction with a value of one million dollars (\$1,000,000.00) or more, provided, however, that certain requirements of the Rider shall only apply as indicated below. This Rider addresses the HireNYC process, including reporting obligations under the HireNYC process, and certain other reporting requirements imposed by law. In general, the HireNYC process under this Rider requires the Contractor to enroll with the HireNYC portal for the City of New York ("the City") found within the Department of Small Business Services's ("SBS") website, to disclose all entry to mid-level job opportunities described in this Rider arising from this contract and located in New York City, and to agree to interview qualified candidates from HireNYC for those opportunities.

HireNYC Requirements

A. Enrollment

The Contractor shall enroll with the HireNYC system, found at www.nyc.gov/sbs, within thirty (30) days after the registration of this Contract pursuant to Section 328 of the New York City Charter. The Contractor shall provide information about the business, designate a primary contact and say whether it intends to hire for any entry to mid-level job opportunities arising from this contract and located in New York City, and, if so, the approximate start date of the first hire.

B. Job Posting Requirements

Once enrolled in HireNYC, the Contractor agrees to update the HireNYC portal with all entry to mid-level job opportunities arising from this contract and located in New York City, if any, which shall be defined as jobs requiring no more than an associate degree, as provided by the New York State Department of Labor (see Column F of <https://labor.ny.gov/stats/2012-2022-NYS-Employment-Prospects.xls>). The information to be updated includes the types of entry and mid-level positions made available from the work arising from the contract and located in New York City, the number of positions, the anticipated schedule of initiating the hiring process for these positions, and the contact information for the Contractor's representative charged with overseeing hiring. The Contractor must update the HireNYC portal with any hiring needs arising from the contract and located in New York City, and the requirements of the jobs to be filled, no less than three weeks prior to the intended first day of employment for each new position, except with the permission of SBS, not to be unreasonably withheld, and must also update the HireNYC portal as set forth below.

After enrollment through HireNYC and submission of relevant information, SBS will work with the Contractor to develop a recruitment plan which will outline the candidate screening process,

and will provide clear instructions as to when, where, and how interviews will take place. HireNYC will screen applicants based on employer requirements and refer applicants whom it believes are qualified to the Contractor for interviews. The Contractor must interview referred applicants whom it believes are qualified.

After completing an interview of a candidate referred by HireNYC, the Contractor must provide feedback via the portal within twenty (20) business days to indicate which candidates were interviewed and hired, if any. In addition, the Contractor shall provide the start date of new hires, and additional information reasonably related to such hires, within twenty (20) business days after the start date. In the event the Contractor does not have any job openings covered by this Rider in any given year, the Contractor shall be required to provide an annual update to HireNYC to that effect. For this purpose, the reporting year shall run from the date of the registration of the contract and each anniversary date.

These requirements do not limit the Contractor's ability to assess the qualifications of prospective workers, and to make final hiring and retention decisions. No provision of this Rider shall be interpreted so as to require the Contractor to employ any particular worker.

In addition, the provisions of this Rider shall not apply to positions that the Contractor intends to fill with employees employed pursuant to the job retention provision of Section 22-505 of the Administrative Code of the City of New York. The Contractor shall not be required to report such openings with HireNYC. However, the Contractor shall enroll with the HireNYC system pursuant to Section A, above, and, if such positions subsequently become open, then the remaining provisions of this Rider will apply.

C. Breach and Liquidated Damages

If the Contractor fails to comply with the terms of the contract and this Rider (1) by not enrolling its business with HireNYC; (2) by not informing HireNYC, as required, of open positions; or (3) by failing to interview a qualified candidate, the contracting agency may assess liquidated damages in the amount of two-thousand five hundred dollars (\$2,500.00) per breach. For all other events of noncompliance with the terms of this Rider, the agency may assess liquidated damages in the amount of five hundred dollars (\$500) per breach.

Furthermore, in the event the Contractor breaches the requirements of this Rider during the term of the contract, the City may hold the Contractor in default of this contract.

Audit Compliance

In addition to the auditing requirements set forth in other parts of the contract, the Contractor shall permit SBS and the City to inspect any and all records concerning or relating to job openings or the hiring of individuals for work arising from the contract and located in New York City. The Contractor shall permit an inspection within seven (7) business days of the request.

Other Reporting Requirements

The Contractor shall report to the City, on a monthly basis, all information reasonably requested by the City that is necessary for the City to comply with any reporting requirements imposed by law or rule, including any requirement that the City maintain a publicly accessible database. In addition, the Contractor agrees to comply with all reporting requirements imposed by law or rule, or as otherwise requested by the City.

Construction Requirements

Construction contractors shall comply with the HireNYC requirements set forth above for all non-trades jobs (e.g., for an administrative position arising out of the work of the contract and located in New York City) as set forth above.

In addition, construction contractors shall reasonably cooperate with SBS and the City on specific outreach events, including Hire on the Spot events, for the hiring of trades workers for the work of this contract.

Further, this contract shall be subject to a project labor agreement if so required elsewhere in this contract.

Federal Hiring Requirements

The Contractor shall comply with all federal hiring requirements as may be set forth elsewhere in this contract, including, as applicable:

- Section 3 of the HUD Act of 1968, which requires, to the greatest extent feasible, economic opportunities for 30 percent of new hires be given to low- and very low-income persons, particularly persons who are recipients of HUD assistance for housing.
- Executive Order 11246, which prohibits discrimination in employment due to race, color, religion, sex or national origin, and requires the implementation of goals for minority and female participation for work involving any Construction trade.

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CITY OF NEW YORK
DEPARTMENT OF
DESIGN AND CONSTRUCTION
DIVISION OF PUBLIC BUILDINGS

INFORMATION FOR BIDDERS

December 2013

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INFORMATION FOR BIDDERS

1. Description and Location of Work

The description and location of the work for which bids are requested are specified in Attachment 1, "Bid Information". Attachment 1 is included in the Bid Booklet.

2. Time and Place for Receipt of Bids

Sealed bids shall be received on or before the date and hour specified in Attachment 1, at which time they will be publicly opened and read aloud in the presence of the Commissioner or his or her representative, and any bidders who may desire to be present.

3. Definitions

The definitions set forth in the Procurement Policy Board Rules shall apply to this Invitation For Bids.

4. Invitation For Bids and Contract Documents

(A) Except for titles, sub-titles, headings, running headlines, tables of contents and indices (all of which are printed herein merely for convenience) the following, except for such portions thereof as may be specifically excluded, shall be deemed to be part of the Contract and the Invitation for Bids.

- (1) All provisions required by law to be inserted in this Contract, whether actually inserted or not
- (2) The Contract Drawings and Specifications
- (3) The General Conditions, the General Requirements and the Special Conditions, if any
- (4) The Contract
- (5) The Information for Bidders; Request for Proposals; Notice of Solicitation and Proposal For Bids; Bid or Proposal, and, if used, the Bid Booklet
- (6) The Budget Director's Certificate; all Addenda issued prior to the receipt of the bids; the Notice of Award; Performance and Payment Bonds, if required; and the Notice to Proceed with the Work.

(B) For particulars as to this procurement, including quantity and quality of the purchase, extent of the work or labor to be performed, delivery and performance schedule, and any other special instructions, prospective bidders are referred to the Invitation For Bids Documents. A copy of such documents can be obtained at the location set forth in Attachment 1.

(C) Deposit for Copy of Invitation For Bids Documents: Prospective bidders may obtain a copy of the Invitation For Bids Documents by complying with the conditions set forth in the Notice of Solicitation. The deposit must be in the form of a check or money order made payable to the City of New York, and drawn upon a state or national bank or trust company, or a check of such bank or trust company signed by a duly authorized officer thereof.

(D) Return of Invitation For Bids Documents: All Invitation For Bids Documents must be returned to the Department upon request. If the bidder elects not to submit a bid thereunder, the Invitation For Bids Documents shall be returned to the Department, along with a statement that no bid will be submitted.

(E) Return of Deposit: Such deposit will be returned within 30 days after the award of the contract or the rejection of all bids as set forth in the advertisement, provided the Invitation For Bids Documents are returned to the location specified in Attachment 1, in physical condition satisfactory to the Commissioner.

(F) Additional Copies: Additional copies of the Invitation For Bids Documents may be obtained, subject to the conditions set forth in the advertisement for bids.

5. Pre-Bid Conference

A pre-bid conference shall be held as set forth in Attachment 1. Nothing stated at the pre-bid conference shall change the terms or conditions of the Invitation For Bids Documents, unless a change is made by written amendment as provided in Section 9 below. Failure to attend a mandatory pre-bid conference shall constitute grounds for the rejection of the bid.

6. Agency Contact

Any questions or correspondence relating to this bid solicitation shall be addressed to the Agency Contact person specified in Attachment 1.

7. Bidder's Oath

(A) The bid shall be properly signed by an authorized representative of the bidder and the bid shall be verified by the written oath of the authorized representative who signed the bid, that the several matters stated and information furnished therein are in all aspects true.

(B) A materially false statement willfully or fraudulently made in connection with the bid or any of the forms completed and submitted with the bid may result in the termination of any Contract between the City and the Bidder. As a result, the Bidder may be barred from participating in future City contracts as well as be subject to possible criminal prosecution.

8. Examination and Viewing of Site, Consideration of Other Sources of Information and Changed Conditions

(A) Pre-Bidding (Investigation) Viewing of Site - Bidders must carefully view and examine the site of the proposed work, as well as its adjacent area, and seek other usual sources of information, for they will be conclusively presumed to have full knowledge of any and all conditions on, about or above the site relating to or affecting in any way the performance of the work to be done under the Contract which were or should have been indicated to a reasonably prudent bidder. To arrange a date for visiting the work site, bidders are to contact the Agency Contact person specified in Attachment 1.

(B) Should the contractor encounter during the progress of the work subsurface conditions at the site materially differing from any shown on the Contract Drawings or indicated in the Specifications or such subsurface conditions as could not reasonably have been anticipated by the contractor and were not anticipated by the City, which conditions will materially affect the cost of the work to be done under the Contract, the attention of the Commissioner must be called immediately to such conditions before they are disturbed. The Commissioner shall thereupon promptly investigate the conditions. If he finds that they do so materially differ, or that they could not reasonably have been anticipated by the contractor and were not anticipated by the City, the Contract may be modified with his written approval.

9. Examination of Proposed Contract

(A) Request for Interpretation or Correction: Prospective bidders must examine the Contract Documents carefully and before bidding must request the Commissioner in writing for an interpretation or correction of every patent ambiguity, inconsistency or error therein which should have been discovered by a reasonably prudent bidder. Such interpretation or correction, as well as any additional contract provisions the Commissioner may decide to include, will be issued in writing by the Commissioner as an addendum to the Contract, which will be transmitted to each person recorded as having received a copy of the Contract Documents from the Department. Transmission of such addendum will be by mail, e-mail, facsimile or hand delivery. Such addendum will also be posted at the place where the Contract Documents are available for the inspection of prospective bidders. Upon transmission as provided for herein, such addendum shall become a part of the Contract Documents, and binding on all bidders, whether or not actual notice of such addendum is shown.

(B) Only Commissioner's Interpretation or Correction Binding: Only the written interpretation or correction so given by the Commissioner shall be binding, and prospective bidders are warned that no other officer, agent or employee of the City is authorized to give information concerning, or to explain or interpret, the Contract.

(C) Documents given to a subcontractor for the purpose of soliciting the subcontractor's bid shall include either a copy of the bid cover sheet or a separate information sheet setting forth the project name, the Contract number (if available), the contracting agency and the Project's location.

10. Form of Bid

Each bid must be submitted upon the prescribed form and must contain: a) the name, residence and place of business of the person or persons making the same; b) the names of all persons interested therein, and if no other person is so interested, such fact must be distinctly stated; c) a statement to the effect that it is made without any connection with any other person making a bid for the same purpose and that it is in all respects fair and without collusion or fraud; d) a statement that no Council member or other officer or employee or person whose salary is payable in whole or part from the City Treasury is directly or indirectly interested therein or in the supplies, materials or equipment and work or labor to which it relates, or in any portion of the profits thereof; e) a statement that the bidder is not in arrears to the City or to any agency upon a debt or contract or taxes, and is not a defaulter as surety or otherwise upon any obligation to the City to any agency thereof, except as set forth in the bid.

THE BID SHALL BE TYPEWRITTEN OR WRITTEN LEGIBLY IN INK. THE BID SHALL BE SIGNED IN INK. ERASURES OR ALTERATIONS SHALL BE INITIALED BY THE SIGNER IN INK. FAILURE TO CONFORM TO THE REQUIREMENTS OF THIS SECTION 10 SHALL RESULT IN THE REJECTION OF THE BID.

11. Irrevocability of Bid

The prices set forth in the bid cannot be revoked and shall be effective until the award of the Contract, unless the bid is withdrawn as provided for in Sections 15 and 18 below.

12. Acknowledgment of Amendments

The receipt of any amendment to the Contract Documents shall be acknowledged by the bidder in its bid submission.

13. Bid Samples and Descriptive Literature

Bid samples and descriptive literature shall not be submitted by the bidder, unless expressly requested elsewhere in the Contract or Contract Documents. Any unsolicited bid samples or descriptive literature which are submitted shall not be examined or tested and shall not be deemed to vary any of the provisions of this Contract.

14. Proprietary Information/Trade Secrets

(A) The bidder shall identify those portions of the bid which it deems to be confidential, proprietary information or trade secrets, and provide justification why such materials shall not be disclosed by the City. All such materials shall be clearly indicated by stamping the pages on which such information appears, at the top and bottom thereof with the word "Confidential". Such materials stamped "Confidential" must be easily separable from the non-confidential sections of the bid.

(B) All such materials so indicated shall be reviewed by the Agency and any decision not to honor a request for confidentiality shall be communicated in writing to the bidder. For those bids which are unsuccessful, all such confidential materials shall be returned to the bidder. Prices, makes and model or catalog numbers of the items offered, deliveries, and terms of payment shall be publicly available after bid opening, regardless of any designation of confidentiality made by the bidder.

15. Pre-Opening Modification or Withdrawal of Bids

Bids may be modified or withdrawn by written notice received in the office designated in Attachment 1, before the time and date set for the bid opening. If a bid is withdrawn in accordance with this Section, the bid security, if any, shall be returned to the bidder.

16. Bid Evaluation and Award

In accordance with the New York City Charter, the Procurement Policy Board Rules and the terms and conditions of this Invitation For Bids, this Contract shall be awarded, if at all, to the responsible bidder whose bid meets the requirements and evaluation criteria set forth in the Invitation For Bids, and whose bid price is either the most favorable bid price or, if the Invitation For Bids so states, the most favorable evaluated bid price. A bid may not be evaluated for any requirement or criterion that is not disclosed in the Invitation For Bids.

Restriction: No negotiations with any bidder shall be allowed to take place except under the circumstances and in the manner set forth in Section 21. Nothing in this Section shall be deemed to permit a contract award to a bidder submitting a higher quality item than that designated in the Invitation For Bids, if that bid is not also the most favorable bid.

17. Late Bids, Late Withdrawals and Late Modifications

Any bid received at the place designated in the solicitation after the time and date set for receipt of bids is late and shall not be considered. Any request for withdrawal or modification received at the place designated in the solicitation after the time and date set for receipt of bids is late and shall not be considered. The exception to this provision is that a late modification of a successful bid that makes the bid terms more favorable to the City shall be considered at any time it is received.

18. Withdrawal of Bids.

Except as provided for in Section 15, above, a bidder may not withdraw its bid before the expiration of forty-five (45) days after the date of the opening of bids; thereafter, a bidder may withdraw its bid only in writing and in advance of an actual award. If within sixty (60) days after the execution of the Contract, the Commissioner fails to fix the date for commencement of work by written notice to the bidder, the bidder, at his option, may ask to be relieved of his obligation to perform the work called for by written notice to the Commissioner. If such notice is given to the Commissioner, and the request to withdraw is granted, the bidder waives all claims in connection with this Contract.

19. Mistake in Bids

(A) Mistake Discovered Before Bid Opening: A bidder may correct mistakes discovered before the time and date set for bid opening by withdrawing or correcting the bid as provided in Section 15 above.

(B) Mistakes Discovered Before Award

(1) In accordance with General Municipal Law (Section 103, subdivision 11), where a unilateral error or mistake is discovered in a bid, such bid may be withdrawn upon written approval of the Agency Chief Contracting Officer if the following conditions are met:

- (a) The mistake is known or made known to the agency prior to the awarding of the Contract or within 3 days after the opening of the bid, whichever period is shorter; and
- (b) The price bid was based upon an error of such magnitude that enforcement would be unconscionable; and

- (c) The bid was submitted in good faith and the bidder submits credible evidence that the mistake was a clerical error as opposed to a judgment error; and
- (d) The error in the bid is actually due to an unintentional and substantial arithmetic error or an unintentional omission of a substantial quantity of work, labor, material or services made directly in the compilation of the bid, which unintentional arithmetic error or unintentional omission can be clearly shown by objective evidence drawn from inspection of the original work paper, documents, or materials used in the preparation of the bid sought to be withdrawn; and
- (e) It is possible to place the agency in the same position as existed prior to the bid.

(2) Unless otherwise required by law, the sole remedy for a bid mistake in accordance with this Article shall be withdrawal of the bid, and the return of the bid bond or other security, if any, to the bidder. Thereafter, the agency may, in its discretion, award the Contract to the next lowest bidder or rebid the Contract. Any amendment to or reformation of a bid or a Contract to rectify such an error or mistake therein is strictly prohibited.

(3) If the mistake and the intended correct bid are clearly evident on the face of the bid document, the bid shall be corrected to the intended correct bid and may not be withdrawn. Examples of mistakes that may be corrected are typographical errors, errors in extending unit prices, transposition errors and arithmetical errors.

20. Low Tie Bids

(A) When two or more low responsive bids from responsible bidders are identical in price, meeting all the requirements and criteria set forth in the Invitation For Bids, the Agency Chief Contracting Officer will break the tie in the following manner and order of priority:

- (1) Award to a certified New York City small, minority or woman-owned business entity bidder;
- (2) Award to a New York City bidder;
- (3) Award to a certified New York State small, minority or woman-owned business bidder;
- (4) Award to a New York State bidder.

(B) If two or more bidders still remain equally eligible after application of paragraph (A) above, award shall be made by a drawing by lot limited to those bidders. The bidders involved shall be invited to attend the drawing. A witness shall be present to verify the drawing and shall certify the results on the bid tabulation sheet.

21. Rejection of Bids

(A) Rejection of Individual Bids: The Agency may reject a bid if:

- (1) The bidder fails to furnish any of the information required pursuant to Section 24 or 28 hereof; or if
- (2) The bidder is determined to be not responsible pursuant to the Procurement Policy Board Rules; or if
- (3) The bid is determined to be non-responsive pursuant to the Procurement Policy Board Rules; or if
- (4) The bid, in the opinion of the Agency Chief Contracting Officer, contains unbalanced bid prices and is thus non-responsive, unless the bidder can show that the prices are not unbalanced for the probable required quantity of items, or if the imbalance is corrected pursuant to Section 15.

(B) Rejection of All Bids: The Agency, upon written approval by the Agency Chief Contracting Officer, may reject all bids and may elect to resolicit bids if in its sole opinion it shall deem it in the best interest of the City so to do.

(C) Rejection of All Bids and Negotiation With All Responsible Bidders: The Agency Head may determine that it is appropriate to cancel the Invitation For Bids after bid opening and before award and to complete the acquisition by negotiation. This determination shall be based on one of the following reasons:

- (1) All otherwise acceptable bids received are at unreasonable prices, or only one bid is received and the Agency Chief Contracting Officer cannot determine the reasonableness of the bid price, or no responsive bid has been received from a responsible bidder; or
- (2) In the judgment of the Agency Chief Contracting Officer, the bids were not independently arrived at in open competition, were collusive, or were submitted in bad faith.

(D) When the Agency has determined that the Invitation for Bids is to be canceled and that use of negotiation is appropriate to complete the acquisition, the contracting officer may negotiate and award the Contract without issuing a new solicitation, subject to the following conditions:

- (1) prior notice of the intention to negotiate and a reasonable opportunity to negotiate have been given by the contracting officer to each responsible bidder that submitted a bid in response to the Invitation for Bids;
- (2) the negotiated price is the lowest negotiated price offered by a responsible bidder; and
- (3) the negotiated price is lower than the lowest rejected bid price of a responsible bidder that submitted a bid in response to the Invitation for Bids.

22. Right to Appeal Determinations of Non-Responsiveness or Non-Responsibility and Right to Protest Solicitations and Award

The bidder has the right to appeal a determination of non-responsiveness or non-responsibility and has the right to protest a solicitation and award. For further information concerning these rights, the bidder is directed to the Procurement Policy Board Rules.

23. Affirmative Action and Equal Employment Opportunity

This Invitation For Bids is subject to applicable provisions of Federal, State and Local Laws and executive orders requiring affirmative action and equal employment opportunity.

24. VENDEX Questionnaires

(A) Requirement: Pursuant to Administrative Code Section 6-116.2 and the PPB Rules, bidders may be obligated to complete and submit VENDEX Questionnaires. Generally, if this bid is \$100,000 or more, or if this bid when added to the sum total of all contracts, concessions and franchises the bidder has received from the City and any subcontracts received from City contractors over the past twelve months, equals or exceeds \$100,000, Vendex Questionnaires must be completed. If required, Vendex Questionnaires must be completed and submitted before any award of contract may be made or before approval is given for a proposed subcontractor. Non-compliance with these submission requirements may result in the disqualification of the bid, disapproval of a subcontractor, subsequent withdrawal of approval for the use of an approved subcontractor, or the cancellation of the contract after its award.

(B) Submission: Vendex Questionnaires must be submitted directly to the Mayor's Office of Contract Services, ATTN: Vendex, 253 Broadway, 9th Floor, New York, New York 10007. In addition, the bidder must submit a Confirmation of Vendex Compliance to the agency. A form for this confirmation is set forth in the Bid Booklet.

(C) Obtaining Forms: Vendex Questionnaires, as well as detailed instructions, may be obtained at www.nyc.gov/vendex. The bidder may also obtain Vendex forms and instructions by contacting the Agency Chief Contracting Officer or the contact person for this contract.

25. Complaints About the Bid Process

The New York City Comptroller is charged with the audit of contracts in New York City. Any vendor who believes that there has been unfairness, favoritism or impropriety in the bid process should inform the Comptroller, Office of Contract Administration, One Centre Street, Room 835, New York, New York; telephone number (212)669-2797.

26. Bid, Performance and Payment Security

(A) Bid Security: Each bid must be accompanied by bid security in an amount and type specified in Attachment 1. The bid security shall assure the City of New York of the adherence of the bidder to its proposal, the execution of the Contract, and the furnishing of Performance and Payment Bonds by the bidder, if required in Attachment 1. Bid security shall be returned to the bidder as follows:

- (1) Within ten (10) days after the bid opening, the Comptroller will be notified to return the deposits of all but the three (3) lowest bidders. Within five (5) days after the award, the Comptroller will be notified to return the deposits of the remaining two unsuccessful bidders.
- (2) Within five (5) days after the execution of the Contract and acceptance of the Contractor's bonds, the Comptroller will be notified to return the bid security of the successful bidder or, if performance and payment bonds are not required, only after the sum retained under Article 21 of the Contract equals the amount of the bid security.
- (3) Where all bids are rejected, the Comptroller will be notified to return the deposit of the three (3) lowest bidders at the time of rejection.

(B) Performance and Payment Security: Performance and Payment Security must be provided in an amount and type specified in Attachment 1. The performance and payment security shall be delivered by the contractor prior to or at the time of execution of the Contract. If a contractor fails to deliver the required performance and payment security, its bid security shall be enforced, and an award of Contract may be made to the next lowest responsible and responsive bidder, or the contract may be rebid.

(C) Acceptable Types of Security: Acceptable types of security for bids, performance, and payment shall be limited to the following:

- (1) a one-time bond in a form satisfactory to the City;
- (2) a bank certified check or money order;
- (3) obligations of the City of New York; or
- (4) other financial instruments as determined by the Office of Construction in consultation with the Comptroller.

Whenever the successful bidder deposits obligations of the City of New York as performance and payment security, the Comptroller may sell and use the proceeds thereof for any purpose for which the principal or surety on such bond would be liable under the terms of the Contract. If the money is deposited with the Comptroller, the successful bidder shall not be entitled to receive interest on such money from the City.

(D) Form of Bonds: Security provided in the form of bonds must be prepared on the form of bonds authorized by the City of New York. Forms for bid, performance, and payment bonds are included in the Invitation for Bids Documents. Such bonds must have as surety thereunder such surety company or companies as are: (1) approved by the City of New York; (2) authorized to do business in the State of New York, and (3) approved by the Department of the Treasury of the United States. Premiums for any required bonds must be included in the base bid.

The bidder is advised that submission of a bid bond where the surety on such bond fails to meet the criteria set forth herein, shall result in the rejection of the bid as non-responsive.

The Department of the Treasury of the United States advises that information concerning approved surety companies may be obtained as follows: (1) from the Government Printing Office at 202-512-1800; (2) through the Internet at <http://www.fms.treas.gov/c570/index.html>, and (3) through a computerized public bulletin board, which can be accessed by using your computer modem and dialing 202-874-6887.

(E) **Power of Attorney:** Attorneys in fact who sign bid, performance, or payment bonds must file with each bond a certified copy of their power of attorney to sign said bonds.

27. Failure to Execute Contract

In the event of failure of the successful bidder to execute the Contract and furnish the required security within ten (10) days after notice of the award of the Contract, the deposit of the successful bidder or so much thereof as shall be applicable to the amount of the award made shall be retained by the City, and the successful bidder shall be liable for and hereby agrees to pay on demand the difference between the price bid and the price for which such Contract shall be subsequently awarded, including the cost of any required reletting and less the amount of such deposit. No plea of mistake in such accepted bid shall be available to the bidder for the recovery of the deposit or as a defense to any action based upon such accepted bid. Further, should the bidder's failure to comply with this Section cause any funding agency, body or group (Federal, State, City, Public, Private, etc.) to terminate, cancel or reduce the funding on this project, the bidder in such event shall be liable also to the City for the amount of actual funding withdrawn by such agency on this project, less the amount of the forfeited deposit.

28. Bidder Responsibilities and Qualifications

(A) Bidders must include with their bids all information necessary for a determination of bidder responsibility, as set forth in the Specifications.

(B) The Agency may require any bidder or prospective bidder to furnish all books of account, records, vouchers, statements or other information concerning the bidder's financial status for examination as may be required by the Agency to ascertain the bidder's responsibility and capability to perform the Contract. If required, a bidder must also submit a sworn statement setting forth such information as the Agency may require concerning present and proposed plant and equipment, the personnel and qualifications of his working organizations, prior experience and performance record.

(C) **Oral Examination on Qualifications:** In addition thereto, and when directed by the Agency, the bidder, or a responsible officer, agent or employee of the bidder, must submit to an oral examination to be conducted by the Agency in relation to his proposed tentative plan and schedule of operations, and such other matters as the Agency may deem necessary in order to determine the bidder's ability and responsibility to perform the work in accordance with the Contract. Each person so examined must sign and verify a stenographic transcript of such examination noting thereon such corrections as such person may desire to make.

(D) If the bidder fails or refuses to supply any of the documents or information set forth in paragraph (B) hereof or fails to comply with any of the requirements thereof, the Agency may reject the bid.

29. Employment Report

In accordance with Executive Order No. 50 (1980) as modified by Executive Order 108 (1986), the filing of a completed Employment Report (ER) is a requirement of doing business with the City of New York for construction contractors with contracts of \$1,000,000 or more and subcontractors with construction subcontracts of \$750,000 or more. The required forms and information are included in the Bid Booklet.

30. Labor Law Requirements

(A) **General:** The successful bidder will be required to comply strictly with all Federal, State and local labor laws and regulations.

(B) New York State Labor Law: This Contract is subject to New York State Labor Law Section 220, which requires that construction workers on the site be paid prevailing wages and supplements. The Contractor is reminded that all wage provisions of this Contract will be enforced strictly and failure to comply will be considered when evaluating performance. Noncompliance may result in the contractor being debarred by the City from future contracts. Complaints filed with the Comptroller may result in decisions which may debar a contractor from bidding contracts with any state governmental entity and other political subdivisions.

(C) Records: The Contractor is expected to submit accurate payroll reports and other required documents and verify attendance and job classifications being utilized in compliance with the law, Contract provisions and agency procedures.

31. Insurance

(A) Bidders are advised that the insurance requirements contained herein are regarded as material terms of the Contract. As required by Article 22 of the Contract, the contractor must effect and maintain with companies licensed and authorized to do business in the State of New York, the types of insurance set forth therein, when required by and in the amounts set forth in Schedule A of the General Conditions. Such required insurance must be provided from the date the contractor is ordered to commence work and up to the date of final acceptance of all required work.

(B) The contractor must, within ten days of receipt of the notice of award, submit the following insurance documentation: (a) original certificate of insurance for general liability in the amount required by Schedule A of the General Conditions, and (b) original certificates of insurance or other proof of coverage for workers' compensation and disability benefits, as required by Section 57 of the New York State Workers' Compensation Law and Section 220 of the Disability Benefits Law.

32. Lump Sum Contracts

(A) Comparison of Bids: Bids on Lump Sum Contracts will be compared on the basis of the lump sum price bid, adjusted for alternate prices bid, if any.

(B) Lump Sum Bids for "General Construction Work" which include excavation shall include all necessary excavation work defined in the Specifications as being included in the lump sum bid. The bidder shall also bid a unit price for the additional cost of excavating material which is defined in the Specifications as excavation for which additional payment will be made. The total estimated additional cost of removing such material will be taken as the quantity set forth in the Engineer's Estimate multiplied by the unit price bid. This total estimated cost of additional excavation shall be added to the lump sum bid for the General Construction Work for the purpose of comparing bids to determine the low bidder.

(C) Variations from Engineer's Estimate: The Engineer's Estimate of the quantity of excavation for which additional payment will be made is approximate only and is given solely to be used as a uniform basis for the comparison of bids and such estimate is not to be considered as part of this contract. The quantities actually required to complete the contract work may be more or less than the quantities in the Engineer's Estimate and, if so, no action for damages or for loss of profits shall accrue to the contractor by reason thereof.

33. Unit Price Contracts

(A) Comparison of Bids: Bids on Unit Price Contracts will be compared on the basis of a total estimated price, arrived at by taking the sum of the estimated quantities of such items, in accordance with the Engineer's Estimate of Quantities set forth in the Bid Form, multiplied by the corresponding unit prices, and including any lump sum bids on individual items.

(B) Variations from Engineer's Estimate: Bidders are warned that the Engineer's Estimate of Quantities on the various items of work and materials is approximate only, given solely to be used as a uniform basis for the comparison of bids, and is not be considered part of this contract. The quantities actually required to complete the contract work may be less or more than so estimated, and if so, no action for damages or for loss of profits shall accrue to the contractor by reason thereof.

(C) Overruns: The terms and conditions applicable to overruns of unit price items are set forth in Article 26 of the Contract.

34. Excise Tax

Bidders are referred to the Specifications for information on Federal Excise Tax exemptions.

35. Licenses and Permits

The successful bidder will be required to obtain all necessary licenses and permits necessary to perform the work.

36. Multiple Prime Contractors

If more than one prime contractor will be involved on this project, all contractors are required to examine the Invitation for Bid packages for all other parts of the project.

37. Locally Based Enterprise Requirements (LBE)

This Contract is subject to the requirements of Administrative Code, Section 6-108.1, and the regulations promulgated thereunder. No construction contract will be awarded unless and until these requirements have been complied with in their entirety. The bidder is advised of the provisions set forth below, as well as the provisions with respect to the Locally Based Enterprise Program contained in Article 67 of the Contract. The contractor is advised that:

(A) If any portion of the Contract is subcontracted, not less than ten percent of the total dollar amount of the contract shall be awarded to locally based enterprises ("LBEs"); except, where less than ten percent of the total dollar amount of the Contract is subcontracted, such lesser percentage shall be so awarded.

(B) No contractor shall require performance and payment bonds from LBE subcontractors.

(C) No Contract shall be awarded unless the contractor first identifies in its bid:

- (1) the percentage, dollar amount and type of work to be subcontracted; and
- (2) the percentage, dollar amount and type of work to be subcontracted to LBEs.

(D) Within ten calendar days after notification of low bid, the apparent low bidder shall submit an "LBE Participation Schedule" to the contracting agency. If such schedule does not identify sufficient LBE subcontractors to meet the requirements of Administrative Code Section 6-108.1, the apparent low bidder shall submit documentation of its good faith efforts to meet such requirements.

(1) The "LBE Participation Schedule" shall include:

- (a) the name and address of each LBE that will be given a subcontract,
- (b) the percentage, dollar amount and type of work to be subcontracted to the LBE, and
- (c) the dates when the LBE subcontract work will commence and end.

- (2) The following documents shall be attached to the "LBE Participation Schedule":
- (a) verification letters from each subcontractor listed in the "LBE Participation Schedule" stating that the LBE will enter into a formal agreement for work,
 - (b) certification documents of any proposed LBE subcontractor which is not on the LBE certified list, and
 - (c) copies of the certification letter of any proposed subcontractor which is an LBE.
- (3) Documentation of good faith efforts to achieve the required LBE percentage shall include as appropriate but not limited to the following:
- (a) attendance at prebid meetings, when scheduled by the agency, to advise bidders of contract requirements;
 - (b) advertisement where appropriate in general circulation media, trade association publications and small business media of the specific subcontracts that would be at least equal to the percentage goal for LBE utilization specified by the contractor;
 - (c) written notification to association of small, minority and women contractors soliciting specific subcontractors;
 - (d) written notification by certified mail to LBE firms that their interest in the contract is solicited for specific work items and their estimated values;
 - (e) demonstration of efforts made to select portions of the work for performance by LBE firms in order to increase the likelihood of achieving the stated goal;
 - (f) documented efforts to negotiate with LBE firms for specific subcontracts, including at a minimum:
 - (i) The names, address and telephone numbers of LBE firms that are contacted;
 - (ii) A description of the information provided to LBE firms regarding the plans and specifications for portions of the work to be performed;
 - (iii) Documentation showing that no reasonable price can be obtained from LBE firms;
 - (iv) A statement of why agreements with LBE firms were not reached;
 - (g) a statement of the reason for rejecting any LBE firm which the contractor deemed to be unqualified; and
 - (h) documentation of efforts made to assist the LBE firms contacted that needed assistance in obtaining required insurance.

(E) Unless otherwise waived by the Commissioner with the approval of the Office of Economic and Financial Opportunity, failure of a proposed contractor to provide the information required by paragraphs (C) and (D) above may render the bid non-responsive and the Contract may not be awarded to the bidder. If the contractor states that it will subcontract a specific portion of the work, but can demonstrate despite good faith efforts it cannot achieve its required LBE percentage for subcontracted work until after award of Contract, the Contract may be awarded, subject to a letter of compliance from the contractor stating that it will comply with Administrative Code Section 6-108.1 and subject to approval by the Commissioner. If the contractor has not met its required LBE percentage prior to award, the contractor shall demonstrate that a good faith effort has been made subsequent to award to obtain LBEs on each subcontract until it meets the required percentage.

(F) When a bidder indicates prior to award that no work will be subcontracted, no work may be subcontracted without the prior written approval of the Commissioner, which shall be granted only if the contractor in good faith seeks LBE subcontractors at least six weeks prior to the start of work.

(G) The contractor may not substitute or change any LBE which was identified prior to award of the contract without the written permission of the Commissioner. The contractor shall make a written application to the Commissioner for permission to make such substitution or change, explaining why the contractor needs to change its LBE subcontractor and how the contractor will meet its LBE subcontracting requirement. Copies of such application must be served on the originally identified LBE by certified mail return receipt requested, as well as the proposed substitute LBE. The Commissioner shall determine whether or not to grant the contractor's request for substitution.

38. Bid Submission Requirements

The Bid Submission Requirements are set forth on page 2 of the Bid Booklet.

39. Comptroller's Certificate

This Contract shall not be binding or of any force unless it is registered by the Comptroller in accordance with Section 328 of the City Charter and the Procurement Policy Board Rules. This Contract shall continue in force only after annual appropriation of funds by the City of New York and certification as hereinabove set forth.

40. Procurement Policy Board Rules

This Invitation For Bids is subject to the Rules of the Procurement Policy Board of the City of New York. In the event of a conflict between said Rules and a provision of this Invitation For Bids, the Rules shall take precedence.

41. DDC Safety Requirements

The DDC Safety Requirements apply to the work to be performed pursuant to the Contract. The DDC Safety Requirements are set forth on the following pages.

CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
SAFETY REQUIREMENTS

June 2015

THE DDC SAFETY REQUIREMENTS INCLUDE THE FOLLOWING SECTIONS:

- I. POLICY ON SITE SAFETY**
- II. PURPOSE**
- III. DEFINITIONS**
- IV. RESPONSIBILITIES**
- V. SAFETY QUESTIONNAIRE**
- VI. SAFETY PROGRAM AND SITE SAFETY PLAN**
- VII. KICK-OFF/PRE-CONSTRUCTION MEETINGS AND SAFETY REVIEW**
- VIII. EVALUATION DURING WORK IN PROGRESS**
- IX. SAFETY PERFORMANCE EVALUATION**

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I. POLICY ON SITE SAFETY

The City of New York Department of Design and Construction (DDC) is committed to a policy of injury and illness prevention and risk management for construction work that will ensure the safety and health of the workers engaged in the projects and the protection of the general public. Therefore, it is DDC's policy that work carried out by Contractors on DDC jobsites must, at a minimum, comply with applicable federal, state and city laws, rules and regulations, including without limitation:

- ❑ U. S. Department of Labor 29 Code of Federal Regulations (CFR) Part 1926 and applicable Sub-parts of Part 1910 – U.S. Occupational Safety and Health Administration (OSHA); New York State Department of Labor Industrial Code Rule 23 – Protection in Construction, Demolition and Excavation;
- ❑ New York City Construction Codes, Title 28
- ❑ NYC Department of Transportation Title 34 Chapter 2 – Highway Rules
- ❑ New York State Department of Labor Industrial Code Rule 16 NYCRR Part 753
- ❑ Title 15 of the Rules of the City of New York, Chapter 13 Citywide Construction Dust Mitigation
- ❑ Manual on Uniform Traffic Control Devices (MUTCD)
- ❑ Title 15 of the Rules of the City of New York, Chapter 28 Citywide Construction Noise Mitigation

I. PURPOSE

The purpose of this policy is to ensure that Contractors perform their work and supervise their employees in accordance with all applicable federal, state and city rules and regulations. Further, Contractors will be expected to minimize or eliminate jobsite and public hazard, through a planning, inspection, auditing and corrective action process. The goal is to control risks so that injuries, illnesses and accidents to contractors' employees, DDC employees and the general public, as well as damage to city-owned and private property, are reduced to the lowest level feasible.

III. DEFINITIONS

Agency Chief Contracting Officer (ACCO): The ACCO shall mean the person delegated authority by the Commissioner to organize and supervise the procurement activity of subordinate Agency staff in conjunction with the CCPO.

Competent Person: As defined by OSHA, an individual who is capable of identifying existing and predictable hazards in the surroundings or working conditions that are unsanitary, hazardous, or dangerous to employees or the general public, and who has authorization to take prompt corrective measures to eliminate them.

Construction Safety Auditor: A representative of the QA&CS Construction Safety Unit who provides inspection and assessment services to enhance health and safety on all DDC construction projects. The activities of the Construction Safety Auditor include performing site surveys, reviewing health and safety plans, reviewing construction permits, and rendering technical advice and assistance to DDC Resident Engineers and Project Managers.

Construction Safety Unit: A part of QA&CS within the Division of Program Management/ Safety & Site Support that assesses contractor safety on DDC jobsites and advises responsible parties of needed corrective actions.

Construction Superintendent: A representative of the contractor responsible for overseeing performance of the required construction work. This individual must engage in sound construction practices, and is responsible to maintain a safe work site. In the case of a project involving the demolition, alteration or new construction of buildings, the Construction Superintendent must be licensed by the NYC Department of Buildings.

Contractor: For purposes of these Safety Requirements, the term "Contractor" shall mean any person or entity that enters into a contract for the performance of construction work on a DDC project. The term "Contractor" shall include any person or entity which enters into any of the following types of contracts: (1) a prime construction contract for a specific project, (2) a prime construction contract using the Job Order Contracting System ("JOCS Contract"), and (3) a subcontract with a CM/Builder ("First Tier Subcontract").

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Daily Safety Job Briefing: Daily jobsite safety meetings, giving to all jobsite personnel by contractor, with the purpose of discussing project specific safety procedures for the scheduled construction work.

Director - Quality Assurance and Construction Safety (QA&CS): Responsible for the operations of the QACS Construction Safety Unit and the DDC Site Safety management programs.

Job Hazard Analysis (JHA): A process of identifying the major job steps and any potential site-specific hazards that may be present during construction and establishing the means and methods to eliminate or control those hazards.

Qualified Person: As defined by OSHA, an individual who, by possession of a recognized degree, certificate, license or professional standing, or who by extensive knowledge, training, and experience, has successfully demonstrated his or her ability to solve problems relating to the subject matter, the work, or the project. Qualified Persons are required under regulation to address issues pertaining, but without limit, to fall protection, scaffold design and trenching and shoring, among others.

Project Site: Those areas indicated in the Contract Documents where the Work is to be performed.

Project Safety Representative: The designated project safety representative shall have completed an authorized 30 hour OSHA Construction Safety Course and other safety training applicable to Contractor's/subcontractor's project work. Except in instances where a dedicated Project Safety Manager is required, a Project Safety Representative may also function as a superintendent, foreman or crew leader on the Project, but must have sufficient experience and authority to undertake corrective actions and must qualify to be a competent person. No work is to be performed on site when a Project Safety Representative is not present.

Project Safety Manager: A dedicated, full-time project safety manager may be a contractual requirement on large projects or projects deemed by DDC to be particularly high risk. This would be in addition or in lieu of a Contractor's Project Safety Representative. This individual shall not have any other assigned duties. This individual shall have received, at a minimum an authorized 30 hour OSHA Construction Safety Course. Other examples of acceptable training are OSHA Safety and Health Standards for the Construction Industry training program (OSHA 510), Certified Safety Professional (CSP), Certified Industrial Hygienist (CIH) or a degree/certificate in a safety and health from a college-level curriculum.

A Project Safety Manager shall possess the additional training, years of experience, and skills necessary to thoroughly understand the health and safety hazards and controls for large construction projects, including the full scope of the specific Work.

QA&CS – Quality Assurance and Construction Safety of the New York City Department of Design and Construction.

Resident Engineer (RE) / Construction Project Manager (CPM): Representative of the Commissioner duly designated by the Commissioner to be his/her representative at the site of the work. (The RE/CPM may be a third-party consultant, including a Construction Management firm, retained by DDC)

Safety Program: Established by the Contractor that covers all operations of that Contractor and establishes the Contractor's overall safety policy, regulatory compliance plan and minimum safety standards. The Safety Program must be submitted prior to the commencement of work at the site and is subject to review and acceptance by the Construction Safety Unit.

Safety Questionnaire: Used by DDC to evaluate Contractor's current and past safety performance. It is required to be completed by all Contractors initially when submitting bids for Construction work, or when being pre-qualified and updated annually or as requested by the DDC.

Site Safety Manager: For certain projects, as defined in NYC Construction Codes – Title 28, the Contractor shall provide a Site Safety Manager with a Site Safety Manager License issued by the NYC Department of Building.

Site Safety Plan: A site-specific safety plan developed by the Contractor for a specific project. The Site Safety Plan must identify hazards associated with the project, and include specific safety procedures and training appropriate and

necessary to complete the work. The Site Safety Plan must be submitted prior to the commencement of work at the site and is subject to review and acceptance by the Construction Safety Unit.

Unsafe or Unhealthy Condition: A condition that could be potentially hazardous to the health and safety of personnel or the public, and/or damaging to equipment, machinery, property or the environment.

Weekly Safety Meetings: Weekly documented jobsite safety meetings, given to all jobsite personnel by contractor, with the purpose of discussing general safety topics and job specific requirements encountered at the DDC work site.

Work: The construction required by the Contract Documents whether completed or partially completed, performed by the Contractor/ subcontractors. Work refers to the furnishing of labor, furnishing and incorporating materials and equipment into the construction and providing any service required by the Contract Documents to fulfill the Contractor's obligation to complete the Project.

IV. RESPONSIBILITIES

All persons who manage, perform, and provide support for construction projects shall conduct operations in compliance with the requirements identified in this Policy and all applicable governing regulatory agency requirements and guidelines pertaining to safety in construction.

A. DDC or CM Resident Engineer / Construction Project Manager

- Monitors the issuance of safety- related permits, approvals and drawings and maintains copies on site.
- Monitors construction-related work activities to confirm that they are conducted in accordance with DDC policies and all applicable regulations that pertain to construction safety.
- Maintains documentation and periodically attends weekly safety meetings and daily safety job briefings.
- Notifies the Construction Safety Unit and the ACCO's Insurance and Risk Management Unit of project- related accidents and emergencies, as per DDC's Construction Safety Emergency and Accident Notification and Response Protocol.
- Gathers facts related to all accidents and prepares DDC Construction Accident Report.
- Notifies the Construction Safety Unit within two (2) hours of the start of an inspection by any outside regulatory agency personnel, including OSHA, NYC DOB or others and forwards a copy of the inspection report within three days of its receipt.
- Monitors the conditions at the site for conformance with the contractor's Site Safety Plan and DDC construction documents.
- Notifies the contractor and DDC in the event that any condition or activity exists that is not in compliance with the contractor's Site Safety Plan, applicable federal, state or local codes or any condition that presents a potential risk of injury to the public or workers or possible damage to property.
- Notifies DDC of any unsafe or unhealthy condition and directs the contractor to provide such labor, materials, equipment and supervision to abate such conditions.
- Escort and assist QA&CS Construction Safety Auditors during the field and record inspections.
- Reports emergency conditions to the Construction Safety Unit immediately.

B. Contractors

- Submit a completed Safety Questionnaire and other safety performance related documentation with its bid or as part of a pre-qualification package.
- Complete a written Job Hazard Analysis (JHA) that identifies safety hazards for project specific work tasks and hazard control methods. A written JHA shall be available at the site for reference and included in the Site Safety Plan submitted by the contractor.
- Submit a Site Safety Plan and Safety Program within 30 days from the Award Date or as otherwise directed. The Site Safety Plan and Safety Program are subject to review and acceptance by the Construction Safety Unit prior to the commencement of work at the site. The Site Safety Plan shall be revised and updated as necessary.

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- Develop project specific safety procedures to protect general public during all construction activities for the duration of the project.
- Ensure that all employees are aware of the hazards associated with the project through documented formal and informal training and/or other communications. Conduct and document weekly safety meetings and daily job briefing sessions for the duration of the project. Documentation to be provided to the RE/CPM on a monthly basis.
- Name the Project Safety Representative and Project Safety Manager, if required. The Contractor will be required to identify the Project Safety Representative and Project Safety Manager in the Site Safety Plan. Resumes, outlining the qualification and experience for the Project Safety Representative and Project Safety Manager, shall be available upon request. DDC reserves the right to request that the Contractor replace any Project Safety Representative or Project Safety Manager for any reason at any time during the project.
- Name a Competent Person(s), The Contractor will be required to identify a Competent Person(s) in the Site Safety Plan.
- Comply with all mandated federal, state and local safety and health rules and regulations.
- Comply with all provisions of the Site Safety Plan.
- Conduct applicable safety training prior to the commencement of work at the site. All training records (OSHA 10-hour, flagger, scaffold, fall protection, confined space entry, etc.) shall be provided to the RE/CPM prior to mobilization, included in the Site Safety Plan, kept current during the course of the project, and available for review. Prior to performing any work on DDC project all employees shall have successfully completed, within the previous five calendar years, a 10 Hour OSHA construction safety course.
- As part of the Site Safety Plan, prepare a site specific programs and plans, such as MPT plan, steel erection plan, confined space program, fall protection plan, demolition plan, etc. (if not otherwise provided in the contract documents) and comply with all of its provisions.
- Conduct and document site-specific safety orientation for Contractor personnel to review the hazards associated with the project as identified in the Site Safety Plan and the specific safety procedures and controls that will be used to protect workers, the general public and property. The Project Safety Representative and/or Project Safety Manager will conduct this training prior to mobilization and provide documentation to the RE/CPM.
- Provide, replace and adequately maintain at or around the project site, suitable and sufficient signage, lights, barricades and enclosures (fences, sidewalk sheds, netting, bracing, etc.).
- Report unsafe or unhealthy conditions to the RE/CPM as soon as practical, but no more than 24 hours after discovery, and take prompt actions to remove or abate such conditions.
- Report any accidents involving injuries to workers or the general public, as well as property damage, to the RE/CPM within one (1) hour.
- Following an accident, the Contractor shall not remove or alter any equipment, structure, material, or evidence related to the accident. Exception: Immediate emergency procedures taken to secure structures, temporary construction, operations, or equipment that pose a continued imminent danger or facilitate assistance for persons who are trapped or who have sustained bodily injury.
- Notify the RE/CPM within one (1) hour of the start of an inspection by any outside regulatory agency personnel, including OSHA, NYC DOB or others.
- Maintain all records pertaining to all required compliance documents and accident and injury reports.
- Address DDC recommendations on safety, which shall in no way relieve the Contractor of its responsibilities for safety on the project. The Contractor has sole responsibility for safety.

V. SAFETY QUESTIONNAIRE

DDC requires that all Contractors provide information regarding their current and past safety performance and programs. This will be accomplished by the use of the DDC Safety Questionnaire. As a part of the bid submittal package, the contractor must submit a completed DDC Safety Questionnaire listing company workers' compensation experience modification rating and OSHA Incident Rates for the three (3) years prior to the date of the bid opening. DDC may request a Contractor to update its Questionnaire at any time or to provide more detailed information. The Contractor must provide the requested information within 15 days.

The following criteria will be used by DDC in reviewing the Contractor's responsibility, which will be based on the information provided on the questionnaire:

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- Criteria 1: OSHA Injury and Illness Rates (I&IR) are no greater than the average for the industry (based on the most current Bureau of Labor Statistics data for the Contractors SIC code); and
- Criteria 2: Insurance workers compensation Experience Modification Rate (EMR) equal to or less than 1.0; and
- Criteria 3: Any willful violations issued by OSHA or NYC DOB within the last three (3) years; and
- Criteria 4: A fatality (worker or member of public) and injuries, requiring OSHA notification, experienced on or near Contractor's worksite within the last three (3) years; and
- Criteria 5: Past safety performance on DDC projects (accidents; status of safety program and site safety plan submittals; etc.)
- Criteria 6: OSHA violation history for the last three (3) years;
- Criteria 7: Contractor shall provide OSHA Injury and Illness Records (currently OSHA 300 and 300A Logs) for the last three (3) years.

If the Contractor fails to meet the basic criteria listed above, the Construction Safety Unit may request, through the ACCO, more details concerning the Contractor's safety experience. DDC may request the Contractor to provide copies of, among other things, accident investigation reports, OSHA records, OSHA and NYC DOB citations, EPA citations and written corrective action plan.

VI. SAFETY PROGRAM AND SITE SAFETY PLAN

Within thirty (30) days from the Award Date, or as otherwise directed, the Contractor shall submit the following: (1) Safety Program, and (2) Site Safety Plan. The Safety Program shall set forth the Contractor's overall safety policy, regulatory compliance plan and minimum safety standards. The Site Safety Plan shall identify project work scope, safety hazards associated with the project tasks, and include specific safety procedures and training appropriate and necessary to complete the work. The Safety Program and the Site Safety Plan are subject to review and acceptance by the Construction Safety Unit prior to the commencement of work at the site. Failure by the Contractor to submit an acceptable Site Safety Plan and Safety Program shall be grounds for default.

Safety Program: Corporate Safety Program established by the Contractor that includes the Contractor's overall safety policy, regulatory compliance plan and basic safety procedures covering all aspects of construction operations, performed by the Contractor. The Safety Program shall be a written document with a separate section describing each element of the Safety Program. The Safety Program shall have at minimum the following elements applicable to the Contractor's operations:

- Responsibility and Organization – Contractor's company organization chart, including titles, names, contact information, roles and responsibilities for key personnel, etc.
- Safety Training Program – Contractor's corporate training program.
- Hazard Corrective Actions – Criteria for safety inspections, identification of safety non-compliances, implementation and verification of corrective actions, forms to document safety inspections results, etc.
- Accident/Exposure Investigation
- Recordkeeping and Reporting Injuries – Responsible staff; reporting and recording criteria; OSHA 300 and 300A form completion, etc.
- Fire Protection and Prevention Program
- Housekeeping
- Illumination
- Sanitation
- Personal Protective Equipment (PPE) – Company policy for the use of head protection, foot protection, hearing protection, eye and face protection, protective clothing, and any additional protective equipment based on work tasks; PPE inspection and replacement policy.
- Hazard Communication Program
- Employee Emergency Action Plan
- Protection of Underground Facilities and Utilities
- Ionizing/Nonionizing Radiation
- Material Handling, Storage, Use and Disposal
- Tools – Hand and Power
- Signs, Signals, and Barricades

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- Scaffold – Local Law 52 requirements, installation, use, inspection, dismantling, training and general safety requirements.
- Welding and Cutting
- Electrical Safety
- Fall Protection
- Cranes, Derrick, Hoists, Elevators, Conveyors
- Excavation Safety
- Concrete and Masonry Construction
- Maintenance and Protection of Traffic
- Steel Erection
- Demolition
- Blasting and the Use of Explosives
- Stairways and Ladders
- Toxic and Hazardous Substances
- Alcohol and Drug Abuse Policy
- Rodents and Vermin
- Occupational Noise Exposure
- Confined Space Program – General confined Space Program: training requirements, confined space hazard evaluation procedure, atmospheric testing procedure, confined space classification, permit-required procedure, communication procedure, rescue procedure, forms, etc.
- Construction Vehicles/Heavy Equipment
- Dust Control Procedures

Site Safety Plan: The Site Safety Plan shall be a written document and shall apply to all project specific Contractor and subcontractor operations, and shall have at a minimum, the following elements with each element described in a separate section (It may be necessary to modify the basic format for certain unique or high-risk projects, such as tunnels or high-rise construction):

- Project Work Scope – Detailed information regarding work tasks that will be performed by contractor and subcontractors under the project.
- Responsibility and Organization – Contractor's organization chart with responsible staff for the project, including titles, names, contact information, roles and responsibilities.
- Safety Training and Education – OSHA 10 Hours training, requirements for daily safety briefings and weekly safety meetings, any work task specific training, responsible staff for implementation of training program for the project.
- Job Hazard Analysis (JHA) – Project specific Job Hazard Analysis including work tasks, identified hazards, hazard control methods (administrative, engineering, PPE), contractor's name, project id, location, name and signature of a certifying person, hazard assessment date.
- Protection of Public
- Hazard Corrective Actions – Responsible staff, forms, frequency of safety inspections and implementation of corrective actions.
- Accident/Exposure Investigation – Accident/incident notification procedure of DDC project staff. Project specific procedures for accident investigation and implementation of corrective actions.
- First Aid and Medical Attention – Responsible staff, location and inspection of First Aid kit, directions to local hospitals; emergency telephone numbers.
- Project Specific Fire Protection and Prevention Program.
- Project Specific Illumination Procedure.
- Project Specific Sanitation Procedure.
- Personal Protective Equipment (PPE)
- Hazard Communication Program – Responsible staff; training; SDS records, project specific list of chemical; location of the program and SDS records.
- Means of Egress – Information regarding free and unobstructed egress from all parts of the building or structure; exit marking; maintenance of means of egress, etc.
- Employee Emergency Action Plan – Project specific: responsible staff, emergency alarm system, evacuation procedure, procedure to account for employees after evacuation, etc.
- Evacuation Plan – Project specific evacuation plan (drawing/scheme) with exists and evacuation routes.

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- Protection of Underground Facilities and Utilities, including responsible staff.
- Ionizing/Nonionizing Radiation – Competent person, license and qualification requirements, type of radiation, employees exposure and protection, etc.
- Material Handling, Storage, Use and Disposal – Project specific information regarding material storage and disposal.
- Signs, Signals, and Barricades – Use of danger/warning signs, sidewalk closure, safety instruction signs, pedestrian fencing and barricades, etc.
- Scaffold – Project specific scaffold types, training, scaffold drawings, competent person, criteria for project specific scaffold, falling object protection.
- Welding and Cutting – project specific procedure for welding and cutting, including all necessary safety requirements such as fire prevention, personal protective equipment, hot work permits, FDNY certificate requirements.
- Fall Protection – Project specific information regarding selected fall protection systems, fall protection plan.
- Cranes, Derrick, Hoists, Elevators, Conveyors – project specific equipment information including type, rated load capacity, manufacture specification requirements, competent person, exposure to falling load, inspection, recordkeeping, clearance requirements, communication procedure, ground lines, permits.
- Excavation Safety – Competent person, project specific protective system.
- Maintenance and Protection of Traffic Plan – Project specific MPT plan, flagmen training.
- Steel Erection – Site specific erection plan, requirements for applicable written notifications, competent person.
- Demolition – Engineering survey, including written evidence, disconnection of all effected utilities, identification of all hazardous chemicals, materials, gases, etc., floor openings, chutes, inspection and maintenance of all stairs/passageways, removal of materials/debris/structural elements, lock out/tag out, competent person.
- Blasting and the Use of Explosives – Project specific safety procedures, warning signs, training/qualification, transportation, storage and use of explosives, inspection.
- Toxic and Hazardous Substances – Safety procedures for substances to be used on project.
- Noise Mitigation Plan – Completed project specific Noise Mitigation Plan.
- Confined Space Program – Project specific Confined Space Program, responsible staff, training records, equipment information, rescue procedure, list of project specific confined spaces, forms.
- Construction Vehicles/Heavy Equipment – Type of construction vehicles/heavy equipment to be used on site.
- Dust Mitigation Plan – Completed project specific Dust Mitigation Plan.

The most critical component of the Site Safety Plan is the Job Hazard Analysis (JHA) section. The JHA form is a written document prepared by the contractor. The contractor must conduct a site and task assessment JHA to identify the major job steps and any potential safety or environmental hazards related to performance of the work, eliminate or implement controls for the potential hazards, and identify proper personal protective equipment for the task. The JHA shall be communicated to all contractor/subcontractor personnel on site.

The initial Job Hazard Assessment form shall be included in the contractor's Site Safety Plan and the current form shall be available at the construction site for reference.

Certain DDC programs, such as Job Order Contracting System (JOCS), may not necessarily require Site Safety Plans. The JOCS contractor shall submit a Safety Program. The Site Safety Plan requirement for the JOCS contractor will be determined by QA&CS based on a project work scope, construction activities and project location. In addition, certain DDC Operating Units may establish client-specific program or safety requirements. The contractor's Site Safety Plan must address such client-specific program or safety requirements.

VII. KICK-OFF MEETINGS/PRE-CONSTRUCTION AND SAFETY REVIEW

RE/CPM shall invite QA&CS Construction Safety Unit to the construction kick-off meeting. A QA&CS representative will participate in this meeting with the Contractor and RE/CPM prior to the start of the project for the purpose of:

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- A. Reviewing the safety issues detailed in the contract.
- B. Reviewing the Site Safety Plan.
- C. Reviewing any new issues or information that was not previously addressed.
- D. Discussing planned inspections and audits of the site by QA&CS personnel.

VIII. EVALUATION DURING WORK IN PROGRESS

The Contractor's adherence to these Safety Requirements will be monitored throughout the project. This will be accomplished by the following:

- A. Use of a safety checklist by a representative of the Construction Safety Unit or other designated DDC representative or Consultant during regular, unannounced inspections of the job site. Field Exit Conferences will be held with the RE/CPM, Contractor Project Safety Representatives.
- B. The RE/CPM will continually monitor the safety and environmental performance of the contractor's employees and work methods. Deficiencies shall be brought to the attention of the contractor's representative on site for immediate correction. The DDC representative will maintain a written record of these deficiencies and have these records available upon request. Any critical deficiencies shall be immediately reported to QA&CS phone# (718) 391-1624 or (718) 391-1911.
- C. If the Contractor's safety performance during the project is not up to DDC standards (safety performance measure, accident/incident rate, etc.) the Director - QA&CS, or his/her designee will meet with the Contractor's Project Safety Representative and or Project Safety Manager, the DDC Project Manager, the RE/CPM, and the DDC Environmental Specialist (if environmental issues are involved). The purpose of this meeting is to 1) determine the level of non-compliance; 2) explain and clarify the safety/environmental provisions; 3) agree on a future course of action to correct the deficiencies.
- D. If the deficiencies continue to occur with inadequate attention by the contractor, this shall, among other remedies available, be grounds for default.
- E. The contractor shall within 1 hour inform the RE/CPM/CM of all accidents/incidents including all fatalities, any injuries to employees or members of the general public, and property damage (e.g., structural damage, equipment rollovers, utility damage, loads dropped from crane). The RE/CPM shall notify the Construction Safety Unit as per DDC's Construction Safety Emergency and Accident Notification and Response Protocol and shall maintain a record of all contractor accidents/incidents for the project.
- F. The Construction Safety Unit shall be notified within two (2) hours of the start of any NYS-DOL/ NYC-COSH/ OSHA/ EPA inspections.

IX. SAFETY PERFORMANCE EVALUATION

The contractor's safety record, including accident/incident history and DDC safety inspection results, will be considered as part of the Contractor's performance evaluation at the conclusion of the project. Poor safety performance during the course of the project shall be a reason to rate a Contractor unsatisfactory which may be reflected in the City's Vendex system and will be considered for future procurement actions as set forth in the City's Procurement Policy Board Rules.

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WITNESSETH:

The parties, in consideration of the mutual agreements contained herein, agree as follows:

**CHAPTER I
THE CONTRACT AND DEFINITIONS**

ARTICLE 1. THE CONTRACT

1.1 Except for titles, subtitles, headings, running headlines, tables of contents and indices (all of which are printed herein merely for convenience), the following, except for such portions thereof as may be specifically excluded, shall be deemed to be part of this Contract:

1.1.1 All provisions required by law to be inserted in this Contract, whether actually inserted or not;

1.1.2 The Contract Drawings and Specifications;

1.1.3 The General Conditions and Special Conditions, if any;

1.1.4 The Contract;

1.1.5 The Information for Bidders; Request for Proposals; Notice of Solicitation and Proposal For Bids; Bid or Proposal, and, if used, the Bid Booklet;

1.1.6 All Addenda issued prior to the receipt of the bids; the Notice of Award; Performance and Payment Bonds, if required; and the Notice to Proceed or the Order to Work.

1.2 Should any conflict occur in or between the Drawings and Specifications, the Contractor shall be deemed to have estimated the most expensive way of doing the Work, unless the Contractor shall have asked for and obtained a decision in writing from the Commissioner of the Agency that is entering into this Contract, before the submission of its bid, as to what shall govern:

ARTICLE 2. DEFINITIONS

2.1 The following words and expressions, or pronouns used in their stead, shall, wherever they appear in this Contract, be construed as follows, unless a different meaning is clear from the context:

2.1.1 "Addendum" or "Addenda" shall mean the additional Contract provisions and/or technical clarifications issued in writing by the Commissioner prior to the receipt of bids.

2.1.2 "Agency" shall mean a city, county, borough or other office, position, department, division, bureau, board or commission, or a corporation, institution or agency of government, the expenses of which are paid in whole or in part from the City treasury.

2.1.3 "Agency Chief Contracting Officer" (ACCO) shall mean a person delegated authority by the Commissioner to organize and supervise the procurement activity of subordinate Agency staff in conjunction with the CCPO, or his/her duly authorized representative.

2.1.4 **"Allowance"** shall mean a sum of money which the Agency may include in the total amount of the Contract for such specific contingencies as the Agency believes may be necessary to complete the Work, e.g., lead or asbestos remediation, and for which the Contractor will be paid on the basis of stipulated unit prices or a formula set forth in the Contract or negotiated between the parties provided, however, that if the Contractor is not directed to use the Allowance, the Contractor shall have no right to such money and it shall be deducted from the total amount of the Contract.

2.1.5 **"City"** shall mean the City of New York.

2.1.6 **"City Chief Procurement Officer" (CCPO)** shall mean a person delegated authority by the Mayor to coordinate and oversee the procurement activity of Mayoral agency staff, including the ACCO and any offices which have oversight responsibility for the procurement of construction, or his/her duly authorized representative.

2.1.7 **"Commissioner"** shall mean the head of the Agency that has entered into this Contract, or his/her duly authorized representative.

2.1.8 **"Comptroller"** shall mean the Comptroller of the City of New York.

2.1.9 **"Contract"** or **"Contract Documents"** shall mean each of the various parts of the contract referred to in Article 1 hereof, both as a whole and severally.

2.1.10 **"Contract Drawings"** shall mean only those drawings specifically entitled as such and listed in the Specifications or in any Addendum, or any drawings furnished by the Commissioner, pertaining or supplemental thereto.

2.1.11 **"Contract Work"** shall mean everything required to be furnished and done by the Contractor by any one or more of the parts of the Contract referred to in Article 1, except Extra Work as hereinafter defined.

2.1.12 **"Contractor"** shall mean the entity which executed this Contract, whether a corporation, firm, partnership, joint venture, individual, or any combination thereof, and its, their, his/her successors, personal representatives, executors, administrators, and assigns, and any person, firm, partnership, joint venture, individual, or corporation which shall at any time be substituted in the place of the Contractor under this Contract.

2.1.13 **"Days"** shall mean calendar days, except where otherwise specified.

2.1.14 **"Engineer"** or **"Architect"** or **"Project Manager"** shall mean the person so designated in writing by the Commissioner in the Notice to Proceed or the Order to Work to act as such in relation to this Contract, including a private Architect or Engineer or Project Manager, as the case may be. Subject to written approval by the Commissioner, the Engineer, Architect or Project Manager may designate an authorized representative.

2.1.15 **"Engineering Audit Officer" (EAO)** shall mean the person so designated by the Commissioner to perform responsible auditing functions hereunder.

2.1.16 **"Extra Work"** shall mean Work other than that required by the Contract at the time of award which is authorized by the Commissioner pursuant to Chapter VI of this Contract.

2.1.17 **"Federal-Aid Contract"** shall mean a contract in which the United States (federal) Government provides financial funding as so designated in the Information for Bidders.

2.1.18 **"Final Acceptance"** shall mean final written acceptance of all the Work by the Commissioner, a copy of which shall be sent to the Contractor.

2.1.19 **"Final Approved Punch List"** shall mean a list, approved pursuant to Article 14.2.2, specifying those items of Work to be completed by the Contractor after Substantial Completion and dates for the completion of each item of Work.

2.1.20 **"Law"** or **"Laws"** shall mean the Constitution of the State of New York, the New York City Charter, the New York City Administrative Code, a statute of the United States or of the State of New York, a local law of the City of New York, any ordinance, rule or regulation having the force of law, or common law.

2.1.21 **"Materialman"** shall mean any corporation, firm, partnership, joint venture, or individual, other than employees of the Contractor, who or which contracts with the Contractor or any Subcontractor, to fabricate or deliver, or who actually fabricates or delivers, plant, materials or equipment to be incorporated in the Work.

2.1.22 **"Means and Methods of Construction"** shall mean the labor, materials, temporary structures, tools, plant, and construction equipment, and the manner and time of their use, necessary to accomplish the result intended by this Contract.

2.1.23 **"Notice to Proceed"** or **"Order to Work"** shall mean the written notice issued by the Commissioner specifying the time for commencement of the Work and the Engineer, Architect or Project Manager.

2.1.24 **"Other Contractor(s)"** shall mean any contractor (other than the entity which executed this Contract or its Subcontractors) who or which has a contract with the City for work on or adjacent to the building or Site of the Work.

2.1.25 **"Payroll Taxes"** shall mean State Unemployment Insurance (SUI), Federal Unemployment Insurance (FUI), and payments pursuant to the Federal Insurance Contributions Act (FICA).

2.1.26 **"Project"** shall mean the public improvement to which this Contract relates.

2.1.27 **"Procurement Policy Board"** (PPB) shall mean the Agency of the City of New York whose function is to establish comprehensive and consistent procurement policies and rules which shall have broad application throughout the City.

2.1.28 **"Required Quantity"** in a unit price Contract shall mean the actual quantity of any item of Work or materials which is required to be performed or furnished in order to comply with the Contract.

2.1.29 **"Resident Engineer"** shall mean the representative of the Commissioner duly designated by the Commissioner to be his/her representative at the site of the Work.

2.1.30 **"Site"** shall mean the area upon or in which the Contractor's operations are carried on, and such other areas adjacent thereto as may be designated as such by the Engineer.

2.1.31 **"Small Tools"** shall mean items that are ordinarily required for a worker's job function, including but not limited to, equipment that ordinarily has no licensing, insurance

or substantive storage costs associated with it; such as circular and chain saws, impact drills, threaders, benders, wrenches, socket tools, etc.

2.1.32 "**Specifications**" shall mean all of the directions, requirements, and standards of performance applying to the Work as hereinafter detailed and designated under the Specifications.

2.1.33 "**Subcontractor**" shall mean any person, firm or corporation, other than employees of the Contractor, who or which contracts with the Contractor or with its subcontractors to furnish, or actually furnishes labor, or labor and materials, or labor and equipment, or superintendence, supervision and/or management at the Site. Wherever the word Subcontractor appears, it shall also mean sub-Subcontractor.

2.1.34 "**Substantial Completion**" shall mean the written determination by the Engineer that the Work required under this Contract is substantially, but not entirely, complete and the approval of the **Final Approved Punch List**.

2.1.35 "**Work**" shall mean all services required to complete the Project in accordance with the Contract Documents, including without limitation, labor, material, superintendence, management, administration, equipment, and incidentals, and obtaining any and all permits, certifications and licenses as may be necessary and required to complete the Work, and shall include both Contract Work and Extra Work.

CHAPTER II THE WORK AND ITS PERFORMANCE

ARTICLE 3. CHARACTER OF THE WORK

3.1 Unless otherwise expressly provided in the **Contract Drawings, Specifications, and Addenda**, the **Work** shall be performed in accordance with the best modern practice, utilizing, unless otherwise specified in writing, new and unused materials of standard first grade quality and workmanship and design of the highest quality, to the satisfaction of the **Commissioner**.

ARTICLE 4. MEANS AND METHODS OF CONSTRUCTION

4.1 Unless otherwise expressly provided in the **Contract Drawings, Specifications, and Addenda**, the **Means and Methods of Construction** shall be such as the Contractor may choose; subject, however, to the Engineer's right to reject the **Means and Methods of Construction** proposed by the Contractor which in the opinion of the Engineer:

- 4.1.1 Will constitute or create a hazard to the **Work**, or to persons or property; or
- 4.1.2 Will not produce finished **Work** in accordance with the terms of the **Contract**; or
- 4.1.3 Will be detrimental to the overall progress of the **Project**.

4.2 The Engineer's approval of the Contractor's **Means and Methods of Construction**, or his/her failure to exercise his/her right to reject such means or methods, shall not relieve the Contractor of its obligation to complete the **Work** as provided in this **Contract**; nor shall the exercise of such right to reject create a cause of action for damages.

ARTICLE 5. COMPLIANCE WITH LAWS

5.1 The **Contractor** shall comply with all **Laws** applicable to this **Contract** and to the **Work** to be done hereunder.

5.2 Procurement Policy Board Rules: This **Contract** is subject to the Rules of the **PPB** ("PPB Rules") in effect at the time of the bid opening for this **Contract**. In the event of a conflict between the **PPB** Rules and a provision of this **Contract**, the **PPB** Rules shall take precedence.

5.3 Noise Control Code provisions.

5.3.1 In accordance with the provisions of Section 24-216(b) of the Administrative Code of the **City** ("Administrative Code"), Noise Abatement Contract Compliance, devices and activities which will be operated, conducted, constructed or manufactured pursuant to this **Contract** and which are subject to the provisions of the **City** Noise Control Code shall be operated, conducted, constructed, or manufactured without causing a violation of the Administrative Code. Such devices and activities shall incorporate advances in the art of noise control development for the kind and level of noise emitted or produced by such devices and activities, in accordance with regulations issued by the **Commissioner** of the **City** Department of Environmental Protection.

5.3.2 The **Contractor** agrees to comply with Section 24-219 of the Administrative Code and implementing rules codified at 15 Rules of the City of New York ("RCNY") Section 28-100 *et seq.* In accordance with such provisions, the **Contractor**, if the **Contractor** is the responsible party under such regulations, shall prepare and post a Construction Noise Mitigation Plan at each **Site**, in which the **Contractor** shall certify that all construction tools and equipment have been maintained so that they operate at normal manufacturers operating specifications. If the **Contractor** cannot make this certification, it must have in place an Alternative Noise Mitigation Plan approved by the **City** Department of Environmental Protection. In addition, the **Contractor's** certified Construction Noise Mitigation Plan is subject inspection by the **City** Department of Environmental Protection in accordance with Section 28-101 of Title 15 of RCNY. No **Contract Work** may take place at a **Site** unless there is a Construction Noise Mitigation Plan or approved Alternative Noise Mitigation Plan in place. In addition, the **Contractor** shall create and implement a noise mitigation training program. Failure to comply with these requirements may result in fines and other penalties pursuant to the applicable provisions of the Administrative Code and RCNY.

5.4 Ultra Low Sulfur Diesel Fuel: In accordance with the provisions of Section 24-163.3 of the Administrative Code, the **Contractor** specifically agrees as follows:

5.4.1 Definitions. For purposes of this Article 5.4, the following definitions apply:

5.4.1(a) "Contractor" means any person or entity that enters into a Public Works Contract with a **City Agency**, or any person or entity that enters into an agreement with such person or entity, to perform work or provide labor or services related to such Public Works Contract.

5.4.1(b) "Motor Vehicle" means any self-propelled vehicle designed for transporting persons or property on a street or highway.

5.4.1(c) "Nonroad Engine" means an internal combustion engine (including the fuel system) that is not used in a Motor Vehicle or a vehicle used solely for competition, or that is not subject to standards promulgated under Section 7411 or Section 7521 of

Title 42 of the United States Code, except that this term shall apply to internal combustion engines used to power generators, compressors or similar equipment used in any construction program or project.

5.4.1(d) "Nonroad Vehicle" means a vehicle that is powered by a Nonroad Engine, fifty (50) horsepower and greater, and that is not a Motor Vehicle or a vehicle used solely for competition, which shall include, but not be limited to, excavators, backhoes, cranes, compressors, generators, bulldozers, and similar equipment, except that this term shall not apply to horticultural maintenance vehicles used for landscaping purposes that are powered by a Nonroad Engine of sixty-five (65) horsepower or less and that are not used in any construction program or project.

5.4.1(e) "Public Works Contract" means a contract with a **City Agency** for a construction program or project involving the construction, demolition, restoration, rehabilitation, repair, renovation, or abatement of any building, structure, tunnel, excavation, roadway, park or bridge; a contract with a **City Agency** for the preparation for any construction program or project involving the construction, demolition, restoration, rehabilitation, repair, renovation, or abatement of any building, structure, tunnel, excavation, roadway, park or bridge; or a contract with a **City Agency** for any final work involved in the completion of any construction program or project involving the construction, demolition, restoration, rehabilitation, repair, renovation, or abatement of any building, structure, tunnel, excavation, roadway, park or bridge.

5.4.1(f) "Ultra Low Sulfur Diesel Fuel" means diesel fuel that has a sulfur content of no more than fifteen parts per million (15 ppm).

5.4.2 Ultra Low Sulfur Diesel Fuel

5.4.2(a) All **Contractors** shall use Ultra Low Sulfur Diesel Fuel in diesel-powered Nonroad Vehicles in the performance of this **Contract**.

5.4.2(b) Notwithstanding the requirements of Article 5.4.2(a), **Contractors** may use diesel fuel that has a sulfur content of no more than thirty parts per million (30 ppm) to fulfill the requirements of this Article 5.4.2, where the Commissioner of the **City Department of Environmental Protection** ("DEP Commissioner") has issued a determination that a sufficient quantity of Ultra Low Sulfur Diesel Fuel is not available to meet the needs of **Agencies** and **Contractors**. Any such determination shall expire after six (6) months unless renewed.

5.4.2(c) **Contractors** shall not be required to comply with this Article 5.4.2 where the **City Agency** letting this **Contract** makes a written finding, which is approved, in writing, by the DEP Commissioner, that a sufficient quantity of Ultra Low Sulfur Diesel Fuel, or diesel fuel that has a sulfur content of no more than thirty parts per million (30 ppm) is not available to meet the requirements of Section 24-163.3 of the Administrative Code, provided that such **Contractor** in its fulfillment of the requirements of this **Contract**, to the extent practicable, shall use whatever quantity of Ultra Low Sulfur Diesel Fuel or diesel fuel that has a sulfur content of no more than thirty parts per million (30 ppm) is available. Any finding made pursuant to this Article 5.4.2(c) shall expire after sixty (60) **Days**, at which time the requirements of this Article 5.4.2 shall be in full force and effect unless the **City Agency** renews the finding in writing and such renewal is approved by the DEP Commissioner.

5.4.2(d) **Contractors** may check on determinations and approvals issued by the DEP Commissioner pursuant to Section 24-163.3 of the Administrative Code, if any, at www.dep.nyc.gov or by contacting the **City Agency** letting this **Contract**.

5.4.2(e) The requirements of this Article 5.4.2 do not apply where they are precluded by federal or State funding requirements or where the **Contract** is an emergency procurement.

5.4.3 Best Available Technology

5.4.3(a) All **Contractors** shall utilize the best available technology for reducing the emission of pollutants for diesel-powered Nonroad Vehicles in the performance of this **Contract**. For determinations of best available technology for each type of diesel-powered Nonroad Vehicle, **Contractors** shall comply with the regulations of the **City Department of Environmental Protection**, as and when adopted, Chapter 14 of Title 15 of the Rules of the City of New York (RCNY). The **Contractor** shall fully document all steps in the best available technology selection process and shall furnish such documentation to the **City Agency** or the DEP Commissioner upon request. The **Contractor** shall retain all documentation generated in the best available technology selection process for as long as the selected best available technology is in use.

5.4.3(b) No **Contractor** shall be required to replace best available technology for reducing the emission of pollutants or other authorized technology utilized for a diesel-powered Nonroad Vehicle in accordance with the provisions of this Article 5.4.3 within three (3) years of having first utilized such technology for such vehicle.

5.4.3(c) This Article 5.4.3 shall not apply to any vehicle used to satisfy the requirements of a specific Public Works Contract for fewer than twenty (20) **Days**.

5.4.3(d) The **Contractor** shall not be required to comply with this Article 5.4.3 with respect to a diesel-powered Nonroad Vehicle under the following circumstances:

5.4.3(d)(i) Where the **City Agency** makes a written finding, which is approved, in writing, by the DEP Commissioner, that the best available technology for reducing the emission of pollutants as required by this Article 5.4.3 is unavailable for such vehicle, the **Contractor** shall use whatever technology for reducing the emission of pollutants, if any, is available and appropriate for such vehicle.

5.4.3(d)(ii) Where the DEP Commissioner has issued a written waiver based upon the **Contractor** having demonstrated to the DEP Commissioner that the use of the best available technology for reducing the emission of pollutants might endanger the operator of such vehicle or those working near such vehicle, due to engine malfunction, the **Contractor** shall use whatever technology for reducing the emission of pollutants, if any, is available and appropriate for such vehicle, which would not endanger the operator of such vehicle or those working near such vehicle.

5.4.3(d)(iii) In determining which technology to use for the purposes of Articles 5.4.3(d)(i) and 5.4.3(d)(ii) above, the **Contractor** shall primarily consider the reduction in emissions of particulate matter and secondarily consider the reduction in emissions of nitrogen oxides associated with the use of such

technology, which shall in no event result in an increase in the emissions of either such pollutant.

5.4.3(d)(iv) The **Contractor** shall submit requests for a finding or a waiver pursuant to this Article 5.4.3(d) in writing to the DEP Commissioner, with a copy to the **ACCO** of the **City Agency** letting this **Contract**. Any finding or waiver made or issued pursuant to Articles 5.4.3(d)(i) and 5.4.3(d)(ii) above shall expire after one hundred eighty (180) **Days**, at which time the requirements of Article 5.4.3(a) shall be in full force and effect unless the **City Agency** renews the finding, in writing, and the DEP Commissioner approves such finding, in writing, or the DEP Commissioner renews the waiver, in writing.

5.4.3(e) The requirements of this Article 5.4.3 do not apply where they are precluded by federal or State funding requirements or where the **Contract** is an emergency procurement.

5.4.4 Section 24-163 of the Administrative Code. The **Contractor** shall comply with Section 24-163 of the Administrative Code related to the idling of the engines of motor vehicles while parking.

5.4.5 Compliance

5.4.5(a) The **Contractor's** compliance with Article 5.4 may be independently monitored. If it is determined that the **Contractor** has failed to comply with any provision of Article 5.4, any costs associated with any independent monitoring incurred by the **City** shall be reimbursed by the **Contractor**.

5.4.5(b) Any **Contractor** who violates any provision of Article 5.4, except as provided in Article 5.4.5(c) below, shall be liable for a civil penalty between the amounts of one thousand (\$1,000) and ten thousand (\$10,000) dollars, in addition to twice the amount of money saved by such **Contractor** for failure to comply with Article 5.4.

5.4.5(c) No **Contractor** shall make a false claim with respect to the provisions of Article 5.4 to a **City Agency**. Where a **Contractor** has been found to have done so, such **Contractor** shall be liable for a civil penalty of twenty thousand (\$20,000) dollars, in addition to twice the amount of money saved by such **Contractor** in association with having made such false claim.

5.4.6 Reporting

5.4.6(a) For all Public Works Contracts covered by this Article 5.4, the **Contractor** shall report to the **City Agency** the following information:

5.4.6(a)(i) The total number of diesel-powered Nonroad Vehicles used to fulfill the requirements of this Public Works Contract;

5.4.6(a)(ii) The number of such Nonroad Vehicles that were powered by Ultra Low Sulfur Diesel Fuel;

5.4.6(a)(iii) The number of such Nonroad Vehicles that utilized the best available technology for reducing the emission of pollutants, including a breakdown by vehicle model and the type of technology;

5.4.6(a)(iv) The number of such Nonroad Vehicles that utilized such other authorized technology in accordance with Article 5.4.3, including a breakdown by vehicle model and the type of technology used for each such vehicle;

5.4.6(a)(v) The locations where such Nonroad Vehicles were used; and

5.4.6(a)(vi) Where a determination is in effect pursuant to Article 5.4.2(b) or 5.4.2(c), detailed information concerning the **Contractor's** efforts to obtain Ultra Low Sulfur Diesel Fuel or diesel fuel that has a sulfur content of no more than thirty parts per million (30 ppm).

5.4.6(b) The **Contractor** shall submit the information required by Article 5.4.6(a) at the completion of **Work** under the Public Works Contract and on a yearly basis no later than August 1 throughout the term of the Public Works Contract. The yearly report shall cover **Work** performed during the preceding fiscal year (July 1 - June 30).

5.5 Ultra Low Sulfur Diesel Fuel. In accordance with the Coordinated Construction Act for Lower Manhattan, as amended:

5.5.1 Definitions. For purposes of this Article 5.5, the following definitions apply:

5.5.1(a) "Lower Manhattan" means the area to the south of and within the following lines: a line beginning at a point where the United States pierhead line in the Hudson River as it exists now or may be extended would intersect with the southerly line of West Houston Street in the Borough of Manhattan extended, thence easterly along the southerly side of West Houston Street to the southerly side of Houston Street, thence easterly along the southerly side of Houston Street to the southerly side of East Houston Street, thence northeasterly along the southerly side of East Houston Street to the point where it would intersect with the United States pierhead line in the East River as it exists now or may be extended, including tax lots within or immediately adjacent thereto.

5.5.1(b) "Lower Manhattan Redevelopment Project" means any project in Lower Manhattan that is funded in whole or in part with federal or State funding, or any project intended to improve transportation between Lower Manhattan and the two air terminals in the City known as LaGuardia Airport and John F. Kennedy International Airport, or between Lower Manhattan and the air terminal in Newark known as Newark Liberty International Airport, and that is funded in whole or in part with federal funding.

5.5.1(c) "Nonroad Engine" means an internal combustion engine (including the fuel system) that is not used in a Motor Vehicle or a vehicle used solely for competition, or that is not subject to standards promulgated under Section 7411 or Section 7521 of Title 42 of the United States Code, except that this term shall apply to internal combustion engines used to power generators, compressors or similar equipment used in any construction program or project.

5.5.1(d) "Nonroad Vehicle" means a vehicle that is powered by a Nonroad Engine, fifty (50) horsepower (HP) and greater, and that is not a Motor Vehicle or a vehicle used solely for competition, which shall include, but not be limited to, excavators, backhoes, cranes, compressors, generators, bulldozers, and similar equipment, except

that this terms shall not apply to horticultural maintenance vehicles used for landscaping purposes that are powered by a Nonroad Engine of sixty-five (65) HP or less and that are not used in any construction program or project.

5.5.1(e) "Ultra Low Sulfur Diesel Fuel" means diesel fuel that has a sulfur content of no more than fifteen parts per million (15 ppm).

5.5.2 Requirements. **Contractors** and **Subcontractors** are required to use only Ultra Low Sulfur Diesel Fuel to power the diesel-powered Nonroad Vehicles with engine HP rating of fifty (50) HP and above used on a Lower Manhattan Redevelopment Project and, where practicable, to reduce the emission of pollutants by retrofitting such Nonroad Vehicles with oxidation catalysts, particulate filters, or technology that achieves lowest particulate matter emissions.

5.6 Pesticides. In accordance with Section 17-1209 of the Administrative Code, to the extent that the **Contractor** or any **Subcontractor** applies pesticides to any property owned or leased by the **City**, the **Contractor**, and any **Subcontractor** shall comply with Chapter 12 of the Administrative Code.

5.7 Waste Treatment, Storage, and Disposal Facilities and Transporters. In connection with the **Work**, the **Contractor** and any **Subcontractor** shall use only those waste treatment, storage, and disposal facilities and waste transporters that possess the requisite license, permit or other governmental approval necessary to treat, store, dispose, or transport the waste, materials or hazardous substances.

5.8 Environmentally Preferable Purchasing. The **Contractor** shall ensure that products purchased or leased by the **Contractor** or any **Subcontractor** for the **Work** that are not specified by the **City** or are submitted as equivalents to a product specified by the **City** comply with the requirements of the New York City Environmentally Preferable Purchasing Program contained in Chapter 11 of Title 43 of the RCNY, pursuant to Chapter 3 of Title 6 of the Administrative Code.

ARTICLE 6. INSPECTION

6.1 During the progress of the **Work** and up to the date of **Final Acceptance**, the **Contractor** shall at all times afford the representatives of the **City** every reasonable, safe, and proper facility for inspecting all **Work** done or being done at the **Site** and also for inspecting the manufacture or preparation of materials and equipment at the place of such manufacture or preparation.

6.2 The **Contractor's** obligation hereunder shall include the uncovering or taking down of finished **Work** and its restoration thereafter; provided, however, that the order to uncover, take down and restore shall be in writing, and further provided that if **Work** thus exposed proves satisfactory, and if the **Contractor** has complied with Article 6.1, such uncovering or taking down and restoration shall be considered an item of **Extra Work** to be paid for in accordance with the provisions of Article 26. If the **Work** thus exposed proves unsatisfactory, the **City** has no obligation to compensate the **Contractor** for the uncovering, taking down or restoration.

6.3 Inspection and approval by the **Commissioner**, the **Engineer**, **Project Manager**, or **Resident Engineer**, of finished **Work** or of **Work** being performed, or of materials and equipment at the place of manufacture or preparation, shall not relieve the **Contractor** of its obligation to perform the **Work** in strict accordance with the **Contract**. Finished or unfinished **Work** not found to be in strict accordance with the **Contract** shall be replaced as directed by the **Engineer**, even though such **Work** may have been previously approved and paid for. Such corrective **Work** is **Contract Work** and shall not be deemed **Extra Work**.

6.4 Rejected **Work** and materials shall be promptly taken down and removed from the **Site**, which must at all times be kept in a reasonably clean and neat condition.

**ARTICLE 7. PROTECTION OF WORK AND OF PERSONS
AND PROPERTY; NOTICES AND INDEMNIFICATION**

7.1 During the performance of the **Work** and up to the date of **Final Acceptance**, the **Contractor** shall be under an absolute obligation to protect the finished and unfinished **Work** against any damage, loss, injury, theft and/or vandalism and in the event of such damage, loss, injury, theft and/or vandalism, it shall promptly replace and/or repair such **Work** at the **Contractor's** sole cost and expense, as directed by the **Resident Engineer**. The obligation to deliver finished **Work** in strict accordance with the **Contract** prior to **Final Acceptance** shall be absolute and shall not be affected by the **Resident Engineer's** approval of, or failure to prohibit, the **Means and Methods of Construction** used by the **Contractor**.

7.2 During the performance of the **Work** and up to the date of **Final Acceptance**, the **Contractor** shall take all reasonable precautions to protect all persons and the property of the **City** and of others from damage, loss or injury resulting from the **Contractor's**, and/or its **Subcontractors'** operations under this **Contract**. The **Contractor's** obligation to protect shall include the duty to provide, place or replace, and adequately maintain at or about the **Site** suitable and sufficient protection such as lights, barricades, and enclosures.

7.3 The **Contractor** shall comply with the notification requirements set forth below in the event of any loss, damage or injury to **Work**, persons or property, or any accidents arising out of the operations of the **Contractor** and/or its **Subcontractors** under this **Contract**.

7.3.1 The **Contractor** shall make a full and complete report in writing to the **Resident Engineer** within three (3) **Days** after the occurrence.

7.3.2 The **Contractor** shall also send written notice of any such event to all insurance carriers that issued potentially responsive policies (including commercial general liability insurance carriers for events relating to the **Contractor's** own employees) no later than twenty (20) days after such event and again no later than twenty (20) days after the initiation of any claim and/or action resulting therefrom. Such notice shall contain the following information: the number of the insurance policy, the name of the Named Insured, the date and location of the incident, and the identity of the persons injured or property damaged. For any policy on which the **City** and/or the **Engineer, Architect, or Project Manager** are Additional Insureds, such notice shall expressly specify that "this notice is being given on behalf of the City of New York as Additional Insured, such other Additional Insureds, as well as the Named Insured."

7.3.2(a) Whenever such notice is sent under a policy on which the **City** is an Additional Insured, the **Contractor** shall provide copies of the notice to the **Comptroller, the Commissioner** and the **City Corporation Counsel**. The copy to the **Comptroller** shall be sent to the Insurance Unit, NYC Comptroller's Office, 1 Centre Street – Room 1222, New York, New York, 10007. The copy to the **Commissioner** shall be sent to the address set forth in Schedule A of the General Conditions. The copy to the **City Corporation Counsel** shall be sent to Insurance Claims Specialist, Affirmative Litigation Division, New York City Law Department, 100 Church Street, New York, New York 10007.

7.3.2(b) If the **Contractor** fails to provide any of the foregoing notices to any appropriate insurance carrier(s) in a timely and complete manner, the **Contractor** shall indemnify the **City** for all losses, judgments, settlements, and expenses, including reasonable attorneys' fees, arising from an insurer's disclaimer of coverage citing late notice by or on behalf of the **City**.

7.4 To the fullest extent permitted by law, the **Contractor** shall defend, indemnify, and hold the **City**, its employees, and officials (the "Indemnitees") harmless against any and all claims (including but not limited to claims asserted by any employee of the **Contractor** and/or its **Subcontractors**) and costs and expenses of whatever kind (including but not limited to payment or reimbursement of attorneys' fees and disbursements) allegedly arising out of or in any way related to the operations of the **Contractor** and/or its **Subcontractors** in the performance of this **Contract** or from the **Contractor's** and/or its **Subcontractors'** failure to comply with any of the provisions of this **Contract** or of the **Law**. Such costs and expenses shall include all those incurred in defending the underlying claim and those incurred in connection with the enforcement of this Article 7.4 by way of cross-claim, third-party claim, declaratory action or otherwise. The parties expressly agree that the indemnification obligation hereunder contemplates (1) full indemnity in the event of liability imposed against the Indemnitees without negligence and solely by reason of statute, operation of **Law** or otherwise; and (2) partial indemnity in the event of any actual negligence on the part of the Indemnitees either causing or contributing to the underlying claim (in which case, indemnification will be limited to any liability imposed over and above that percentage attributable to actual fault whether by statute, by operation of **Law**, or otherwise). Where partial indemnity is provided hereunder, all costs and expenses shall be indemnified on a pro rata basis.

7.4.1 Indemnification under Article 7.4 or any other provision of the **Contract** shall operate whether or not **Contractor** or its **Subcontractors** have placed and maintained the insurance specified under Article 22.

7.5 The provisions of this Article 7 shall not be deemed to create any new right of action in favor of third parties against the **Contractor** or the **City**.

CHAPTER III TIME PROVISIONS

ARTICLE 8. COMMENCEMENT AND PROSECUTION OF THE WORK

8.1 The **Contractor** shall commence the **Work** on the date specified in the **Notice to Proceed** or the **Order to Work**. The time for performance of the **Work** under the **Contract** shall be computed from the date specified in the **Notice to Proceed** or the **Order to Work**. **TIME BEING OF THE ESSENCE** to the **City**, the **Contractor** shall thereafter prosecute the **Work** diligently, using such **Means and Methods of Construction** as are in accord with Article 4 herein and as will assure its completion not later than the date specified in this **Contract**, or on the date to which the time for completion may be extended.

ARTICLE 9. PROGRESS SCHEDULES

9.1 To enable the **Work** to be performed in an orderly and expeditious manner, the **Contractor**, within fifteen (15) **Days** after the **Notice to Proceed** or **Order to Work**, unless otherwise directed by the **Engineer**, shall submit to the **Engineer** a proposed progress schedule based on the Critical Path Method in the form of a bar graph or in such other form as specified by the **Engineer**, and monthly cash flow requirements, showing:

9.1.1 The anticipated time of commencement and completion of each of the various operations to be performed under this **Contract**; and

9.1.2 The sequence and interrelation of each of these operations with the others and with those of other related contracts; and

9.1.3 The estimated time required for fabrication or delivery, or both, of all materials and equipment required for the **Work**, including the anticipated time for obtaining required approvals pursuant to Article 10; and

9.1.4 The estimated amount in dollars the **Contractor** will claim on a monthly basis.

9.2 The proposed schedule shall be revised as directed by the **Engineer**, until finally approved by the **Engineer**, and after such approval, subject to the provisions of Article 11, shall be strictly adhered to by the **Contractor**.

9.3 If the **Contractor** shall fail to adhere to the approved progress schedule, or to the schedule as revised pursuant to Article 11, it shall promptly adopt such other or additional **Means and Methods of Construction**, at its sole cost and expense, as will make up for the time lost and will assure completion in accordance with the approved progress schedule. The approval by the **City** of a progress schedule which is shorter than the time allotted under the **Contract** shall not create any liability for the **City** if the approved progress schedule is not met.

9.4 The **Contractor** will not receive any payments until the proposed progress schedule is submitted.

ARTICLE 10. REQUESTS FOR INFORMATION OR APPROVAL

10.1 From time to time as the **Work** progresses and in the sequence indicated by the approved progress schedule, the **Contractor** shall submit to the **Engineer** a specific request in writing for each item of information or approval required by the **Contractor**. These requests shall state the latest date upon which the information or approval is actually required by the **Contractor**, and shall be submitted in a reasonable time in advance thereof to provide the **Engineer** a sufficient time to act upon such submissions, or any necessary re-submissions thereof.

10.2 The **Contractor** shall not have any right to an extension of time on account of delays due to the **Contractor's** failure to submit requests for the required information or the required approval in accordance with the above requirements.

ARTICLE 11. NOTICE OF CONDITIONS CAUSING DELAY AND DOCUMENTATION OF DAMAGES CAUSED BY DELAY

11.1 After the commencement of any condition which is causing or may cause a delay in completion of the **Work**, including conditions for which the **Contractor** may be entitled to an extension of time, the following notifications and submittals are required:

11.1.1 Within seven (7) **Days** after the commencement of such condition, the **Contractor** must notify the **Engineer** in writing of the existence, nature and effect of such condition upon the approved progress schedule and the **Work**, and must state why and in what respects, if any, the condition is causing or may cause a delay.

11.1.2 If the **Contractor** shall claim to be sustaining damages for delay as provided for in this Article 11, within forty-five (45) **Days** from the time such damages are first incurred, and every thirty (30) **Days** thereafter for as long as such damages are being incurred, the **Contractor** shall submit to the **Commissioner** verified written statements of the details and the amounts of such damages, together with documentary evidence of such damages, ("statement of delay damages") as further detailed in Article 11.6. The **Contractor** may submit any of the above statements within such additional time as may be granted by the **Commissioner** in writing upon written request therefor. On failure of the **Contractor** to strictly comply with all of the foregoing provisions, such claims shall be deemed waived and no right to recover on such claims shall exist. Damages that the **Contractor** may claim in any action arising under or by reason of this **Contract** shall not be different from or in excess of the statements made and documentation provided pursuant to this Article 11.

11.1.3 Within 60 days of submission of the final verified statement of claims pursuant to Article 44, the **Commissioner** shall make a determination as to whether a compensable delay has occurred and, if so, the amount of compensation due the **Contractor**. Notwithstanding the above, the **Commissioner** may make a determination as to whether a compensable delay has occurred at any time after the **Contractor's** first submission of a statement of delay damages provided, however, that the amount of compensation due to the **Contractor** will not be determined until the **Commissioner** determines that the **Work** is delayed after the date set for substantial completion.

11.2 Failure of the **Contractor** to strictly comply with the requirements of Article 11.1.1 may, in the discretion of the **Commissioner**, be deemed sufficient cause to deny any extension of time on account of delay arising out of such condition. Failure of the **Contractor** to strictly comply with the requirements of Articles 11.1.1 and 11.1.2 shall be deemed a conclusive waiver by the **Contractor** of any and all claims for damages for delay arising from such condition and no right to recover on such claims shall exist.

11.3 When appropriate and directed by the **Engineer**, the progress schedule shall be revised by the **Contractor** until finally approved by the **Engineer**. The revised progress schedule must be strictly adhered to by the **Contractor**.

11.4 Compensable Delays

11.4.1 The **Contractor** agrees to make claim only for additional costs attributable to delay in the performance of this **Contract** necessarily extending the time for completion of the **Work** or resulting from acceleration directed by the **Commissioner** and required to maintain the **Project** schedule, occasioned solely by any act or omission to act of the **City** listed below. The **Contractor** also agrees that delay from any other cause shall be compensated, if at all, solely by an extension of time to complete the performance of the **Work**.

11.4.1.1 The failure of the **City** to take reasonable measures to coordinate and progress the **Work**, except that the **City** shall not be responsible for the **Contractor's** obligation to coordinate and progress the **Work** of its **Subcontractors**.

11.4.1.2 Extended delays attributable to the **City** in the review or issuance of change orders, in shop drawing reviews and approvals or as a result of the cumulative impact of multiple change orders, which have a verifiable impact on **Project** costs.

11.4.1.3 The unavailability of the **Site** for an extended period of time that significantly affects the scheduled completion of the **Contract**.

- 11.4.1.4 The issuance by the **Engineer** of a stop work order relative to a substantial portion of the **Work** for a period exceeding thirty (30) **Days**, that was not brought about through any action or omission of the **Contractor**.
- 11.4.1.5 Differing site conditions that were neither known nor reasonably ascertainable on a pre-bid inspection of the **Site** or review of the bid documents or other publicly available sources, and that are not ordinarily encountered in the **Project's** geographical area or neighborhood or in the type of **Work** to be performed.
- 11.4.1.6 Delays caused by the **City's** bad faith or its willful, malicious, or grossly negligent conduct;
- 11.4.1.7 Delays not contemplated by the parties;
- 11.4.1.8 Delays so unreasonable that they constitute an intentional abandonment of the **Contract** by the **City**; and
- 11.4.1.9 Delays resulting from the **City's** breach of a fundamental obligation of the **Contract**.

11.4.2 No claim may be made for any alleged delay in **Substantial Completion** of the **Work** by a date earlier than the date of **Substantial Completion** provided for in Schedule A unless there is a provision in the **Contract** providing for additional compensation for early completion. No claim may be made for any alleged delay in **Substantial Completion** of the **Work** if the work is substantially completed by the date of **Substantial Completion** provided for in Schedule A unless acceleration has been directed by the **Commissioner** to meet the date of **Substantial Completion** set forth in Schedule A.

11.4.3 The provisions of this Article 11 apply only to claims for additional costs attributable to delay and do not preclude determinations by the **Commissioner** allowing reimbursements for additional costs for **Extra Work** pursuant to Articles 25 and 26 of this **Contract**. To the extent that any cost attributable to delay is reimbursed as part of a change order, no additional claim for compensation under this Article 11 shall be allowed.

11.5 Non-Compensable Delays. The **Contractor** agrees to make no claim for, and is deemed to have included in its bid prices for the various items of the **Contract**, the extra/additional costs attributable to any delays caused by or attributable to the items set forth below. For such items, the **Contractor** shall be compensated, if at all, solely by an extension of time to complete the performance of the **Work**, in accordance with the provisions of Article 13. Such extensions of time will be granted, if at all, pursuant to the grounds set forth in Article 13.3.

11.5.1 The acts or omissions of any third parties, including but not limited to **Other Contractors**, public/ governmental bodies (other than **City Agencies**), utilities or private enterprises, who are disclosed in the **Contract Documents** or are ordinarily encountered or generally recognized as related to the **Work**;

11.5.2 Any situation which was within the contemplation of the parties at the time of entering into the **Contract**, including any delay indicated or disclosed in the **Contract Documents** or generally recognized as related to the nature of the **Work**, and/or the existence of any facility or appurtenance owned, operated or maintained by any third party, as indicated or disclosed in the **Contract Documents** or ordinarily encountered or generally recognized as related to the nature of the **Work**;

11.5.3 Restraining orders, injunctions or judgments issued by a court which were caused by a Contractor's submission, action or inaction or by a Contractor's **Means and Methods** of

Construction, or by third parties, unless such order, injunction or judgment was the result of an action or omission by the **City**;

11.5.4 Any labor boycott, strike, picketing, lockout or similar situation;

11.5.5 Any shortages of supplies or materials, or unavailability of equipment, required by the **Contract Work**;

11.5.6 Climatic conditions, storms, floods, droughts, tidal waves, fires, hurricanes, earthquakes, landslides or other catastrophes or acts of God, or acts of war or of the public enemy or terrorist acts, including the **City's** reasonable responses thereto; and

11.5.7 **Extra Work** which does not significantly affect the overall completion of the **Contract**, reasonable delays in the review or issuance of change orders or field orders and/or in shop drawing reviews or approvals.

11.6 Required Content of Submission of Statement of Delay Damages

11.6.1 In the verified written statement of delay damages required by Article 11.1.2, the following information shall be provided by the **Contractor**:

11.6.1.1 For each delay, the start and end dates of the claimed periods of delay and, in addition, a description of the operations that were delayed, an explanation of how they were delayed, and the reasons for the delay, including identifying the applicable act or omission of the **City** listed in Article 11.4.

11.6.1.2 A detailed factual statement of the claim providing all necessary dates, locations and items of **Work** affected by the claim.

11.6.1.3 The amount of additional compensation sought and a breakdown of that amount into categories as described in Article 26.2, subject to the limitations set forth in Article 11.7.

11.6.1.4 Any additional information requested by the **Commissioner**.

11.7 Recoverable Costs

11.7.1 Delay damages may be recoverable for the following costs actually and necessarily incurred in the performance of the **Work**:

11.7.1.1 Direct labor, including payroll taxes (subject to statutory wage caps) and supplemental benefits, based on time and materials records;

11.7.1.2 Necessary materials (including transportation to the **Site**), based on time and material records;

11.7.1.3 Reasonable rental value of necessary plant and equipment other than small tools, plus fuel/energy costs according to the applicable formula set forth in Articles 26.2.4 and/or 26.2.8, based on time and material records;

11.7.1.4 Insurance and bond costs;

11.7.1.5 Extended field office costs;

11.7.1.6 Extended **Site** overhead; and

11.7.1.7 Extended home office overhead.

11.7.2 Recoverable Subcontractor Costs. When the **Work** is performed by a **Subcontractor**, the **Contractor** may be paid the actual and necessary costs of such subcontracted **Work** as outlined above in Articles 11.7.1.1 through 11.7.1.6, and an

additional overhead of five (5%) percent of the costs outlined in Articles 11.7.1.1 through 11.7.1.3.

11.7.3 Non-Recoverable Costs. The parties agree that the **City** will have no liability for the following items and the **Contractor** agrees it shall make no claim for the following items:

- 11.7.3.1 Profit, or loss of anticipated or unanticipated profit;
- 11.7.3.2 Consequential damages, including but not limited to interest on monies in dispute, including interest which is paid on such monies, loss of bonding capacity, bidding opportunities, or interest in investment, or any resulting insolvency;
- 11.7.3.3 Indirect costs or expenses of any nature;
- 11.7.3.4 Direct or indirect costs attributable to performance of **Work** where the **Contractor**, because of situations or conditions within its control, has not progressed the **Work** in a satisfactory manner; and
- 11.7.3.5 Attorneys' fees and dispute and claims preparation expenses.

11.8 Determinations under this Article 11 are not subject to the jurisdiction of the Contract Dispute Resolution Board pursuant to the dispute resolution process set forth in Article 27.

11.9 If the parties agree, pursuant to Article 11.1.3 above, that a compensable delay has occurred and agree on the amount of compensation, payment may be made pursuant to a written change order. Payment pursuant to such change order is subject to pre-audit by the **Engineering Audit Officer**, and may be post-audited by the **Comptroller** and/or the **Agency**.

ARTICLE 12. COORDINATION WITH OTHER CONTRACTORS

12.1 During the progress of the **Work**, **Other Contractors** may be engaged in performing other work or may be awarded other contracts for additional work on this **Project**. In that event, the **Contractor** shall coordinate the **Work** to be done hereunder with the work of such **Other Contractors** and the **Contractor** shall fully cooperate with such **Other Contractors** and carefully fit its own **Work** to that provided under other contracts as may be directed by the **Engineer**. The **Contractor** shall not commit or permit any act which will interfere with the performance of work by any **Other Contractors**.

12.2 If the **Engineer** determines that the **Contractor** is failing to coordinate its **Work** with the work of **Other Contractors** as the **Engineer** has directed, then the **Commissioner** shall have the right to withhold any payments otherwise due hereunder until the **Contractor** completely complies with the **Engineer's** directions.

12.3 The **Contractor** shall notify the **Engineer** in writing if any **Other Contractor** on this **Project** is failing to coordinate its work with the **Work** of this **Contract**. If the **Engineer** finds such charges to be true, the **Engineer** shall promptly issue such directions to the **Other Contractor** with respect thereto as the situation may require. The **City** shall not, however, be liable for any damages suffered by any **Other Contractor's** failure to coordinate its work with the **Work** of this **Contract** or by reason of the **Other Contractor's** failure to promptly comply with the directions so issued by the **Engineer**, or by reason of any **Other Contractor's** default in performance, it being understood that the **City** does not guarantee the responsibility or continued efficiency of any contractor. The **Contractor** agrees to make no claim against

the City for any damages relating to or arising out of any directions issued by the **Engineer** pursuant to this Article 12 (including but not limited to the failure of any **Other Contractor** to comply or promptly comply with such directions), or the failure of the **Engineer** to issue any directions, or the failure of any **Other Contractor** to coordinate its work, or the default in performance of any **Other Contractor**.

12.4 The **Contractor** shall indemnify and hold the **City** harmless from any and all claims or judgments for damages and from costs and expenses to which the **City** may be subjected or which it may suffer or incur by reason of the **Contractor's** failure to comply with the **Engineer's** directions promptly; and the **Comptroller** shall have the right to exercise the powers reserved in Article 23 with respect to any claims which may be made for damages due to the **Contractor's** failure to comply with the **Engineer's** directions promptly. Insofar as the facts and **Law** relating to any claim would preclude the **City** from being completely indemnified by the **Contractor**, the **City** shall be partially indemnified by the **Contractor** to the fullest extent provided by **Law**.

12.5 Should the **Contractor** sustain any damage through any act or omission of any **Other Contractor** having a contract with the **City** for the performance of work upon the **Site** or of work which may be necessary to be performed for the proper prosecution of the **Work** to be performed hereunder, or through any act or omission of a subcontractor of such **Other Contractor**, the **Contractor** shall have no claim against the **City** for such damage, but shall have a right to recover such damage from the **Other Contractor** under the provision similar to the following provisions which apply to this **Contract** and have been or will be inserted in the contracts with such **Other Contractors**:

12.5.1 Should any **Other Contractor** having or who shall hereafter have a contract with the **City** for the performance of work upon the **Site** sustain any damage through any act or omission of the **Contractor** hereunder or through any act or omission of any **Subcontractor** of the **Contractor**, the **Contractor** agrees to reimburse such **Other Contractor** for all such damages and to defend at its own expense any action based upon such claim and if any judgment or claim (even if the allegations of the action are without merit) against the **City** shall be allowed the **Contractor** shall pay or satisfy such judgment or claim and pay all costs and expenses in connection therewith and agrees to indemnify and hold the **City** harmless from all such claims. Insofar as the facts and **Law** relating to any claim would preclude the **City** from being completely indemnified by the **Contractor**, the **City** shall be partially indemnified by the **Contractor** to the fullest extent provided by **Law**.

12.6 The **City's** right to indemnification hereunder shall in no way be diminished, waived or discharged by its recourse to assessment of liquidated damages as provided in Article 15, or by the exercise of any other remedy provided for by **Contract** or by **Law**.

ARTICLE 13. EXTENSION OF TIME FOR PERFORMANCE

13.1 If performance by the **Contractor** is delayed for a reason set forth in Article 13.3, the **Contractor** may be allowed a reasonable extension of time in conformance with this Article 13 and the **PPB Rules**.

13.2 Any extension of time may be granted only by the **ACCO** or by the Board for the Extension of Time (hereafter "Board") (as set forth below) upon written application by the **Contractor**.

13.3 Grounds for Extension: If such application is made, the **Contractor** shall be entitled to an extension of time for delay in completion of the **Work** caused solely:

13.3.1 By the acts or omissions of the **City**, its officials, agents or employees; or

13.3.2 By the act or omissions of **Other Contractors** on this **Project**; or

13.3.3 By supervening conditions entirely beyond the control of either party hereto (such as, but not limited to, acts of God or the public enemy, excessive inclement weather, war or other national emergency making performance temporarily impossible or illegal, or strikes or labor disputes not brought about by any act or omission of the **Contractor**).

13.3.4 The **Contractor** shall, however, be entitled to an extension of time for such causes only for the number of **Days** of delay which the **ACCO** or the Board may determine to be due solely to such causes, and then only if the **Contractor** shall have strictly complied with all of the requirements of Articles 9 and 10.

13.4 The **Contractor** shall not be entitled to receive a separate extension of time for each of several causes of delay operating concurrently, but, if at all, only for the actual period of delay in completion of the **Work** as determined by the **ACCO** or the Board, irrespective of the number of causes contributing to produce such delay. If one of several causes of delay operating concurrently results from any act, fault or omission of the **Contractor** or of its **Subcontractors** or **Materialmen**, and would of itself (irrespective of the concurrent causes) have delayed the **Work**, no extension of time will be allowed for the period of delay resulting from such act, fault or omission.

13.5 The determination made by the **ACCO** or the Board on an application for an extension of time shall be binding and conclusive on the **Contractor**.

13.6 The **ACCO** or the Board acting entirely within their discretion may grant an application for an extension of time for causes of delay other than those herein referred.

13.7 Permitting the **Contractor** to continue with the **Work** after the time fixed for its completion has expired, or after the time to which such completion may have been extended has expired, or the making of any payment to the **Contractor** after such time, shall in no way operate as a waiver on the part of the **City** of any of its rights under this **Contract**.

13.8 Application for Extension of Time:

13.8.1 Before the **Contractor's** time extension request will be considered, the **Contractor** shall notify the **ACCO** of the condition which allegedly has caused or is causing the delay, and shall submit a written application to the **ACCO** identifying:

13.8.1(a) The **Contractor**; the registration number; and **Project** description;

13.8.1(b) Liquidated damage assessment rate, as specified in the **Contract**;

13.8.1(c) Original total bid price;

13.8.1(d) The original **Contract** start date and completion date;

13.8.1(e) Any previous time extensions granted (number and duration); and

13.8.1(f) The extension of time requested.

13.8.2 In addition, the application for extension of time shall set forth in detail:

13.8.2(a) The nature of each alleged cause of delay in completing the **Work**;

13.8.2(b) The date upon which each such cause of delay began and ended and the number of **Days** attributable to each such cause;

13.8.2(c) A statement that the **Contractor** waives all claims except for those delineated in the application, and the particulars of any claims which the **Contractor** does not agree to waive. For time extensions for **Substantial Completion** and final completion payments, the application shall include a detailed statement of the dollar amounts of each element of claim item reserved; and

13.8.2(d) A statement indicating the **Contractor's** understanding that the time extension is granted only for purposes of permitting continuation of **Contract** performance and payment for **Work** performed and that the **City** retains its right to conduct an investigation and assess liquidated damages as appropriate in the future.

13.9 Analysis and Approval of Time Extensions:

13.9.1 For time extensions for partial payments, a written determination shall be made by the **ACCO** who may, for good and sufficient cause, extend the time for the performance of the **Contract** as follows:

13.9.1(a) If the **Work** is to be completed within six (6) months, the time for performance may be extended for sixty (60) **Days**;

13.9.1(b) If the **Work** is to be completed within less than one (1) year but more than six (6) months, an extension of ninety (90) **Days** may be granted;

13.9.1(c) If the **Contract** period exceeds one (1) year, besides the extension granted in Article 13.9.1(b), an additional thirty (30) **Days** may be granted for each multiple of six (6) months involved beyond the one (1) year period; or

13.9.1(d) If exceptional circumstances exist, the **ACCO** may extend the time for performance beyond the extensions in Articles 13.9.1(a), 13.9.1(b), and 13.9.1(c). In that event, the **ACCO** shall file with the Mayor's Office of Contract Services a written explanation of the exceptional circumstances.

13.9.2 For extensions of time for **Substantial Completion** and final completion payments, the **Engineer**, in consultation with the **ACCO**, shall prepare a written analysis of the delay (including a preliminary determination of the causes of delay, the beginning and end dates for each such cause of delay, and whether the delays are excusable under the terms of this **Contract**). The report shall be subject to review by and approval of the Board, which shall have authority to question its analysis and determinations and request additional facts or documentation. The report as reviewed and made final by the Board shall be made a part of the **Agency** contract file. Neither the report itself nor anything contained therein shall operate as a waiver or release of any claim the **City** may have against the **Contractor** for either actual or liquidated damages.

13.9.3 Approval Mechanism for Time Extensions for **Substantial Completion** or Final Completion Payments: An extension shall be granted only with the approval of the Board which is comprised of the **ACCO** of the **Agency**, the **City** Corporation Counsel, and the **Comptroller**, or their authorized representatives.

13.9.4 Neither the granting of any application for an extension of time to the **Contractor** or any **Other Contractor** on this **Project** nor the papers, records or reports related to any application for or grant of an extension of time or determination related thereto shall be referred to or offered in evidence by the **Contractor** or its attorneys in any action or proceeding.

13.10 No Damage for Delay: The **Contractor** agrees to make no claim for damages for delay in the performance of this **Contract** occasioned by any act or omission to act of the **City** or any of its representatives, except as provided for in Article 11.

ARTICLE 14. COMPLETION AND FINAL ACCEPTANCE OF THE WORK

14.1 Date for **Substantial Completion**: The **Contractor** shall substantially complete the **Work** within the time fixed in Schedule A of the General Conditions, or within the time to which such **Substantial Completion** may be extended.

14.2 Determining the Date of **Substantial Completion**: The **Work** will be deemed to be substantially complete when the two conditions set forth below have been met.

14.2.1 Inspection: The **Engineer** has inspected the **Work** and has made a written determination that it is substantially complete.

14.2.2 Approval of **Final Approved Punch List** and Date for **Final Acceptance**: Following inspection of the **Work**, the **Engineer** shall furnish the **Contractor** with a final punch list, specifying all items of **Work** to be completed and proposing dates for the completion of each specified item of **Work**. The **Contractor** shall then submit in writing to the **Engineer** within ten (10) **Days** of the **Engineer** furnishing the final punch list either acceptance of the dates or proposed alternative dates for the completion of each specified item of **Work**. If the **Contractor** proposes alternative dates, then, within a reasonable time after receipt, the **Engineer**, in a written notification to the **Contractor**, shall approve the **Contractor's** completion dates or, if they are unable to agree, the **Engineer** shall establish dates for the completion of each item of **Work**. If the **Contractor** neither accepts the dates nor proposes alternative dates within ten (10) **Days**, the schedule proposed by the **Engineer** shall be deemed accepted. The latest completion date specified shall be the date for **Final Acceptance** of the **Work**.

14.3 Date of **Substantial Completion**. The date of approval of the **Final Approved Punch List**, shall be the date of **Substantial Completion**. The date of approval of the **Final Approved Punch List** shall be either (a) if the **Contractor** approves the final punch list and proposed dates for completion furnished by the **Engineer**, the date of the **Contractor's** approval; or (b) if the **Contractor** neither accepts the dates nor proposes alternative dates, ten (10) **Days** after the **Engineer** furnishes the **Contractor** with a final punch list and proposed dates for completion; or (c) if the **Contractor** proposes alternative dates, the date that the **Engineer** sends written notification to the **Contractor** either approving the **Contractor's** proposed alternative dates or establishing dates for the completion for each item of **Work**.

14.4 Determining the Date of **Final Acceptance**: The **Work** will be accepted as final and complete as of the date of the **Engineer's** inspection if, upon such inspection, the **Engineer** finds that all items on the **Final Approved Punch List** are complete and no further **Work** remains to be done. The **Commissioner** will then issue a written determination of **Final Acceptance**.

14.5 Request for Inspection: Inspection of the **Work** by the **Engineer** for the purpose of **Substantial Completion** or **Final Acceptance** shall be made within ten (10) **Days** after receipt of the **Contractor's** written request therefor.

14.6 Request for Re-inspection: If upon inspection for the purpose of **Substantial Completion** or **Final Acceptance**, the **Engineer** determines that there are items of **Work** still to be performed, the **Contractor** shall promptly perform them and then request a re-inspection. If upon re-inspection, the **Engineer** determines that the **Work** is substantially complete or finally accepted, the date of such re-inspection shall be the date of **Substantial Completion** or **Final Acceptance**. Re-inspection by the **Engineer** shall be made within ten (10) **Days** after receipt of the **Contractor's** written request therefor.

14.7 Initiation of Inspection by the **Engineer**: If the **Contractor** does not request inspection or re-inspection of the **Work** for the purpose of **Substantial Completion** or **Final Acceptance**, the **Engineer** may initiate such inspection or re-inspection.

ARTICLE 15. LIQUIDATED DAMAGES

15.1 In the event the **Contractor** fails to substantially complete the **Work** within the time fixed for such **Substantial Completion** in Schedule A of the General Conditions, plus authorized time extensions, or if the **Contractor**, in the sole determination of the **Commissioner**, has abandoned the **Work**, the **Contractor** shall pay to the **City** the sum fixed in Schedule A of the General Conditions, for each and every **Day** that the time consumed in substantially completing the **Work** exceeds the time allowed therefor; which said sum, in view of the difficulty of accurately ascertaining the loss which the **City** will suffer by reason of delay in the **Substantial Completion** of the **Work** hereunder, is hereby fixed and agreed as the liquidated damages that the **City** will suffer by reason of such delay, and not as a penalty. This Article 15 shall also apply to the **Contractor** whether or not the **Contractor** is defaulted pursuant to Chapter X of this **Contract**. Neither the failure to assess liquidated damages nor the granting of any time extension shall operate as a waiver or release of any claim the **City** may have against the **Contractor** for either actual or liquidated damages.

15.2 Liquidated damages received hereunder are not intended to be nor shall they be treated as either a partial or full waiver or discharge of the **City's** right to indemnification, or the **Contractor's** obligation to indemnify the **City**, or to any other remedy provided for in this **Contract** or by **Law**.

15.3 The **Commissioner** may deduct and retain out of the monies which may become due hereunder, the amount of any such liquidated damages; and in case the amount which may become due hereunder shall be less than the amount of liquidated damages suffered by the **City**, the **Contractor** shall be liable to pay the difference.

ARTICLE 16. OCCUPATION OR USE PRIOR TO COMPLETION

16.1 Unless otherwise provided for in the **Specifications**, the **Commissioner** may take over, use, occupy or operate any part of the **Work** at any time prior to **Final Acceptance**, upon written notification to the **Contractor**. The **Engineer** shall inspect the part of the **Work** to be taken over, used, occupied, or operated, and will furnish the **Contractor** with a written statement of the **Work**, if any, which remains to be performed on such part. The **Contractor** shall not object to, nor interfere with, the **Commissioner's** decision to exercise the rights granted by Article 16. In the event the **Commissioner** takes over, uses, occupies, or operates any part of the **Work**:

16.1.1 the **Engineer** shall issue a written determination of **Substantial Completion** with respect to such part of the **Work**;

16.1.2 the **Contractor** shall be relieved of its absolute obligation to protect such part of the unfinished **Work** in accordance with Article 7;

16.1.3 the **Contractor's** guarantee on such part of the **Work** shall begin on the date of such use by the **City**; and;

16.1.4 the **Contractor** shall be entitled to a return of so much of the amount retained in accordance with Article 21 as it relates to such part of the **Work**, except so much thereof as may be retained under Articles 24 and 44.

CHAPTER IV SUBCONTRACTS AND ASSIGNMENTS

ARTICLE 17. SUBCONTRACTS

17.1 The **Contractor** shall not make subcontracts totaling an amount more than the percentage of the total **Contract** price fixed in Schedule A of the General Conditions, without prior written permission from the **Commissioner**. All subcontracts made by the **Contractor** shall be in writing. No **Work** may be performed by a **Subcontractor** prior to the **Contractor** entering into a written subcontract with the **Subcontractor** and complying with the provisions of this Article 17.

17.2 Before making any subcontracts, the **Contractor** shall submit a written statement to the **Commissioner** giving the name and address of the proposed **Subcontractor**; the portion of the **Work** and materials which it is to perform and furnish; the cost of the subcontract; the VENDEX questionnaire if required; the proposed subcontract if requested by the **Commissioner**; and any other information tending to prove that the proposed **Subcontractor** has the necessary facilities, skill, integrity, past experience, and financial resources to perform the **Work** in accordance with the terms and conditions of this **Contract**.

17.3 In addition to the requirements in Article 17.2, **Contractor** is required to list the **Subcontractor** in the web based Subcontractor Reporting System through the City's Payee Information Portal (PIP), available at www.nyc.gov/pip.¹ For each **Subcontractor** listed, **Contractor** is required to provide the following information: maximum contract value, description of **Subcontractor's** Work, start and end date of the subcontract and identification of the **Subcontractor's** industry. Thereafter, **Contractor** will be required to report in the system the payments made to each **Subcontractor** within 30 days of making the payment. If any of the required information changes throughout the Term of the **Contract**, **Contractor** will be required to revise the information in the system.

Failure of the **Contractor** to list a **Subcontractor** and/or to report **Subcontractor** payments in a timely fashion may result in the **Commissioner** declaring the **Contractor** in default of the **Contract** and will subject **Contractor** to liquidated damages in the amount of \$100 per day for each day that the **Contractor** fails to identify a **Subcontractor** along with the required information about the **Subcontractor** and/or fails to report payments to a **Subcontractor**, beyond the time frames set forth herein or in the notice from the **City**. Article 15 shall govern the issue of liquidated damages.

¹ In order to use the new system, a PIP account will be required. Detailed instructions on creating a PIP account and using the new system are also available at www.nyc.gov/pip. Additional assistance with PIP may be obtained by emailing the Financial Information Services Agency Help Desk at pip@fisa.nyc.gov.

17.4 If an approved **Subcontractor** elects to subcontract any portion of its subcontract, the proposed sub-subcontract shall be submitted in the same manner as directed above.

17.5 The **Commissioner** will notify the **Contractor** in writing whether the proposed **Subcontractor** is approved. If the proposed **Subcontractor** is not approved, the **Contractor** may submit another proposed **Subcontractor** unless the **Contractor** decides to do the **Work**. No **Subcontractor** shall be permitted to enter or perform any work on the **Site** unless approved.

17.6 Before entering into any subcontract hereunder, the **Contractor** shall provide the proposed **Subcontractor** with a complete copy of this document and inform the proposed **Subcontractor** fully and completely of all provisions and requirements of this **Contract** relating either directly or indirectly to the **Work** to be performed and the materials to be furnished under such subcontract, and every such **Subcontractor** shall expressly stipulate that all labor performed and materials furnished by the **Subcontractor** shall strictly comply with the requirements of this **Contract**.

17.7 Documents given to a prospective **Subcontractor** for the purpose of soliciting the **Subcontractor's** bid shall include either a copy of the bid cover or a separate information sheet setting forth the **Project** name, the **Contract** number (if available), the **Agency** (as noted in Article 2.1.6), and the **Project's** location.

17.8 The **Commissioner's** approval of a **Subcontractor** shall not relieve the **Contractor** of any of its responsibilities, duties, and liabilities hereunder. The **Contractor** shall be solely responsible to the **City** for the acts or defaults of its **Subcontractor** and of such **Subcontractor's** officers, agents, and employees, each of whom shall, for this purpose, be deemed to be the agent or employee of the **Contractor** to the extent of its subcontract.

17.9 If the **Subcontractor** fails to maintain the necessary facilities, skill, integrity, past experience, and financial resources (other than due to the **Contractor's** failure to make payments where required) to perform the **Work** in accordance with the terms and conditions of this **Contract**, the **Contractor** shall promptly notify the **Commissioner** and replace such **Subcontractor** with a newly approved **Subcontractor** in accordance with this Article 17.

17.10 The **Contractor** shall be responsible for ensuring that all **Subcontractors** performing **Work** at the **Site** maintain all insurance required by **Law**.

17.11 The **Contractor** shall promptly, upon request, file with the **Engineer** a conformed copy of the subcontract and its cost. The subcontract shall provide the following:

17.11.1 **Payment to Subcontractors:** The agreement between the **Contractor** and its **Subcontractor** shall contain the same terms and conditions as to method of payment for **Work**, labor, and materials, and as to retained percentages, as are contained in this **Contract**.

17.11.2 **Prevailing Rate of Wages:** The agreement between the **Contractor** and its **Subcontractor** shall include the prevailing wage rates and supplemental benefits to be paid in accordance with Labor Law Section 220.

17.11.3 **Section 6-123 of the Administrative Code:** Pursuant to the requirements of Section 6-123 of the Administrative Code, every agreement between the **Contractor** and a **Subcontractor** in excess of fifty thousand (\$50,000) dollars shall include a provision that the **Subcontractor** shall not engage in any unlawful discriminatory practice as defined in Title VIII of the Administrative Code (Section 8-101 *et seq.*).

17.11.4 All requirements required pursuant to federal and/or state grant agreement(s), if applicable to the **Work**.

17.12 The **Commissioner** may deduct from the amounts certified under this **Contract** to be due to the **Contractor**, the sum or sums due and owing from the **Contractor** to the **Subcontractors** according to the terms of the said subcontracts, and in case of dispute between the **Contractor** and its **Subcontractor**, or **Subcontractors**, as to the amount due and owing, the **Commissioner** may deduct and withhold from the amounts certified under this **Contract** to be due to the **Contractor** such sum or sums as may be claimed by such **Subcontractor**, or **Subcontractors**, in a sworn affidavit, to be due and owing until such time as such claim or claims shall have been finally resolved.

17.13 On contracts where performance bonds and payment bonds are executed, the **Contractor** shall include on each requisition for payment the following data: **Subcontractor's** name, value of the subcontract, total amount previously paid to **Subcontractor** for **Work** previously requisitioned, and the amount, including retainage, to be paid to the **Subcontractor** for **Work** included in the requisition.

17.14 On **Contracts** where performance bonds and payment bonds are not executed, the **Contractor** shall include with each requisition for payment submitted hereunder, a signed statement from each and every **Subcontractor** and/or **Materialman** for whom payment is requested in such requisition. Such signed statement shall be on the letterhead of the **Subcontractor** and/or **Materialman** for whom payment is requested and shall (i) verify that such **Subcontractor** and/or **Materialman** has been paid in full for all **Work** performed and/or material supplied to date, exclusive of any amount retained and any amount included on the current requisition, and (ii) state the total amount of retainage to date, exclusive of any amount retained on the current requisition.

ARTICLE 18. ASSIGNMENTS

18.1 The **Contractor** shall not assign, transfer, convey or otherwise dispose of this **Contract**, or the right to execute it, or the right, title or interest in or to it or any part thereof, or assign, by power of attorney or otherwise any of the monies due or to become due under this **Contract**, unless the previous written consent of the **Commissioner** shall first be obtained thereto, and the giving of any such consent to a particular assignment shall not dispense with the necessity of such consent to any further or other assignments.

18.2 Such assignment, transfer, conveyance or other disposition of this **Contract** shall not be valid until filed in the office of the **Commissioner** and the **Comptroller**, with the written consent of the **Commissioner** endorsed thereon or attached thereto.

18.3 Failure to obtain the previous written consent of the **Commissioner** to such an assignment, transfer, conveyance or other disposition, may result in the revocation and annulment of this **Contract**. The **City** shall thereupon be relieved and discharged from any further liability to the **Contractor**, its assignees, transferees or sublessees, who shall forfeit and lose all monies therefor earned under the **Contract**, except so much as may be required to pay the **Contractor's** employees.

18.4 The provisions of this clause shall not hinder, prevent, or affect an assignment by the **Contractor** for the benefit of its creditors made pursuant to the **Laws** of the State of New York.

18.5 This **Contract** may be assigned by the **City** to any corporation, agency or instrumentality having authority to accept such assignment.

CHAPTER V
CONTRACTOR'S SECURITY AND GUARANTEE

ARTICLE 19. SECURITY DEPOSIT

19.1 If performance and payment bonds are required, the **City** shall retain the bid security to ensure that the successful bidder executes the **Contract** and furnishes the required payment and performance security within ten (10) **Days** after notice of the award of the **Contract**. If the successful bidder fails to execute the **Contract** and furnish the required payment and performance security, the **City** shall retain such bid security as set forth in the Information for Bidders. If the successful bidder executes the **Contract** and furnishes the required payment and performance security, the **City** shall return the bid security within a reasonable time after the furnishing of such bonds and execution of the **Contract** by the **City**.

19.2 If performance and payment bonds are not required, the bid security shall be retained by the **City** as security for the **Contractor's** faithful performance of the **Contract**. If partial payments are provided, the bid security will be returned to the **Contractor** after the sum retained under Article 21 equals the amount of the bid security, subject to other provisions of this **Contract**. If partial payments are not provided, the bid security will be released when final payment is certified by the **City** for payment.

19.3 If the **Contractor** is declared in default under Article 48 prior to the return of the deposit, or if any claim is made such as referred to in Article 23, the amount of such deposit, or so much thereof as the **Comptroller** may deem necessary, may be retained and then applied by the **Comptroller**:

19.3.1 To compensate the **City** for any expense, loss or damage suffered or incurred by reason of or resulting from such default, including the cost of re-letting and liquidated damages; or

19.3.2 To indemnify the **City** against any and all claims.

ARTICLE 20. PAYMENT GUARANTEE

20.1 On **Contracts** where one hundred (100%) percent performance bonds and payment bonds are executed, this Article 20 does not apply.

20.2 In the event the terms of this **Contract** do not require the **Contractor** to provide a payment bond or where the **Contract** does not require a payment bond for one hundred (100%) percent of the **Contract** price, the **City** shall, in accordance with the terms of this Article 20, guarantee payment of all lawful claims for:

20.2.1 Wages and compensation for labor performed and/or services rendered; and

20.2.2 Materials, equipment, and supplies provided, whether incorporated into the **Work** or not, when demands have been filed with the **City** as provided hereinafter by any person, firm, or corporation which furnished labor, material, equipment, supplies, or any combination thereof, in connection with the **Work** performed hereunder (hereinafter referred to as the "beneficiary") at the direction of the **City** or the **Contractor**.

20.3 The provisions of Article 20.2 are subject to the following limitations and conditions:

20.3.1 If the **Contractor** provides a payment bond for a value that is less than one hundred (100%) percent of the value of the **Contract Work**, the payment bond provided by the **Contractor** shall be primary (and non-contributing) to the payment guarantee provided under this Article 20.

20.3.2 The guarantee is made for the benefit of all beneficiaries as defined in Article 20.2 provided that those beneficiaries strictly adhere to the terms and conditions of Article 20.3.4 and 20.3.5.

20.3.3 Nothing in this Article 20 shall prevent a beneficiary providing labor, services or material for the **Work** from suing the **Contractor** for any amounts due and owing the beneficiary by the **Contractor**.

20.3.4 Every person who has furnished labor or material, to the **Contractor** or to a **Subcontractor** of the **Contractor**, in the prosecution of the **Work** and who has not been paid in full therefor before the expiration of a period of ninety (90) **Days** after the date on which the last of the labor was performed or material was furnished by him/her for which the claim is made, shall have the right to sue on this payment guarantee in his/her own name for the amount, or the balance thereof, unpaid at the time of commencement of the action; provided, however, that a person having a direct contractual relationship with a **Subcontractor** of the **Contractor** but no contractual relationship express or implied with the **Contractor** shall not have a right of action upon the guarantee unless he/she shall have given written notice to the **Contractor** within one hundred twenty (120) **Days** from the date on which the last of the labor was performed or the last of the material was furnished, for which his/her claim is made, stating with substantial accuracy the amount claimed and the name of the party to whom the material was furnished or for whom the labor was performed. The notice shall be served by delivering the same personally to the **Contractor** or by mailing the same by registered mail, postage prepaid, in an envelope addressed to the **Contractor** at any place where it maintains an office or conducts its business; provided, however, that where such notice is actually received by the **Contractor** by other means, such notice shall be deemed sufficient.

20.3.5 Except as provided in Labor Law Section 220-g, no action on this payment guarantee shall be commenced after the expiration of the one-year limitations period set forth in Section 137(4)(b) of the State Finance Law.

20.3.6 The **Contractor** shall promptly forward to the **City** any notice or demand received pursuant to Article 20.3.4. The **Contractor** shall inform the **City** of any defenses to the notice or demand and shall forward to the **City** any documents the **City** requests concerning the notice or demand.

20.3.7 All demands made against the **City** by a beneficiary of this payment guarantee shall be presented to the **Engineer** along with all written documentation concerning the demand which the **Engineer** deems reasonably appropriate or necessary, which may include, but shall not be limited to: the subcontract; any invoices presented to the **Contractor** for payment; the notarized statement of the beneficiary that the demand is due and payable, that a request for payment has been made of the **Contractor** and that the demand has not been paid by the **Contractor** within the time allowed for such payment by the subcontract; and copies of any correspondence between the beneficiary and the **Contractor** concerning such demand. The **City** shall notify the **Contractor** that a demand has been made. The **Contractor** shall inform the **City** of any defenses to the demand and shall forward to the **City** any documents the **City** requests concerning the demand.

20.3.8 The City shall make payment only if, after considering all defenses presented by the **Contractor**, it determines that the payment is due and owing to the beneficiary making the demand.

20.3.9 No beneficiary shall be entitled to interest from the City, or to any other costs, including, but not limited to, attorneys' fees, except to the extent required by State Finance Law Section 137.

20.4 Upon the receipt by the City of a demand pursuant to this Article 20, the City may withhold from any payment otherwise due and owing to the **Contractor** under this **Contract** an amount sufficient to satisfy the demand.

20.4.1 In the event the City determines that the demand is valid, the City shall notify the **Contractor** of such determination and the amount thereof and direct the **Contractor** to immediately pay such amount to the beneficiary. In the event the **Contractor**, within seven (7) Days of receipt of such notification from the City, fails to pay the beneficiary, such failure shall constitute an automatic and irrevocable assignment of payment by the **Contractor** to the beneficiary for the amount of the demand determined by the City to be valid. The **Contractor**, without further notification or other process, hereby gives its unconditional consent to such assignment of payment to the beneficiary and authorizes the City, on its behalf, to take all necessary actions to implement such assignment of payment, including without limitation the execution of any instrument or documentation necessary to effectuate such assignment..

20.4.2 In the event that the amount otherwise due and owing to the **Contractor** by the City is insufficient to satisfy such demand, the City may, at its option, require payment from the **Contractor** of an amount sufficient to cover such demand and exercise any other right to require or recover payment which the City may have under Law or Contract.

20.4.3 In the event the City determines that the demand is invalid, any amount withheld pending the City's review of such demand shall be paid to the **Contractor**; provided, however, no lien has been filed. In the event a claim or an action has been filed, the terms and conditions set forth in Article 23 shall apply. In the event a lien has been filed, the parties will be governed by the provisions of the Lien Law of the State of New York.

20.5 The provisions of this Article 20 shall not prevent the City and the **Contractor** from resolving disputes in accordance with the **PPB Rules**, where applicable.

20.6 In the event the City determines that the beneficiary is entitled to payment pursuant to this Article 20, such determination and any defenses and counterclaims raised by the **Contractor** shall be taken into account in evaluating the **Contractor's** performance.

20.7 Nothing in this Article 20 shall relieve the **Contractor** of the obligation to pay the claims of all persons with valid and lawful claims against the **Contractor** relating to the **Work**.

20.8 The **Contractor** shall not require any performance, payment or other bonds of any **Subcontractor** if this **Contract** does not require such bonds of the **Contractor**.

20.9 The payment guarantee made pursuant to this Article 20 shall be construed in a manner consistent with Section 137 of the State Finance Law and shall afford to persons furnishing labor or materials to the **Contractor** or its **Subcontractors** in the prosecution of the **Work** under this **Contract** all of the rights and remedies afforded to such persons by such section, including but not limited to, the right

to commence an action against the **City** on the payment guarantee provided by this Article 20 within the one-year limitations period set forth in Section 137(4)(b).

ARTICLE 21. RETAINED PERCENTAGE

21.1 If this **Contract** requires one hundred (100%) percent performance and payment security, then as further security for the faithful performance of this **Contract**, the **Commissioner** shall deduct, and retain until the substantial completion of the **Work**, five (5%) percent of the value of **Work** certified for payment in each partial payment voucher.

21.2 If this **Contract** does not require one hundred (100%) percent performance and payment security and if the price for which this **Contract** was awarded does not exceed one million (\$1,000,000) dollars, then as further security for the faithful performance of this **Contract**, the **Commissioner** shall deduct, and retain until the substantial completion of the **Work**, five (5%) percent of the value of **Work** certified for payment in each partial payment voucher.

21.3 If this **Contract** does not require one hundred (100%) percent performance and payment security and if the price for which this **Contract** was awarded exceeds one million (\$1,000,000) dollars, then as further security for the faithful performance of this **Contract**, the **Commissioner** shall deduct, and retain until the substantial completion of the **Work**, up to ten (10%) percent of the value of **Work** certified for payment in each partial payment voucher. The percentage to be retained is set forth in Schedule A of the General Conditions.

ARTICLE 22. INSURANCE

22.1 Types of Insurance: The **Contractor** shall procure and maintain the following types of insurance if, and as indicated, in Schedule A of the General Conditions (with the minimum limits and special conditions specified in Schedule A). Such insurance shall be maintained from the date the **Contractor** is required to provide Proof of Insurance pursuant to Article 22.3.1 through the date of completion of all required **Work** (including punch list work as certified in writing by the **Resident Engineer**), except for insurance required pursuant to Article 22.1.4, which may terminate upon **Substantial Completion** of the **Contract**. All insurance shall meet the requirements set forth in this Article 22. Wherever this Article requires that insurance coverage be "at least as broad" as a specified form (including all ISO forms), there is no obligation that the form itself be used, provided that the **Contractor** can demonstrate that the alternative form or endorsement contained in its policy provides coverage at least as broad as the specified form.

22.1.1 Commercial General Liability Insurance: The **Contractor** shall provide Commercial General Liability Insurance covering claims for property damage and/or bodily injury, including death, which may arise from any of the operations under this **Contract**. Coverage under this insurance shall be at least as broad as that provided by the latest edition of Insurance Services Office ("ISO") Form CG 0001. Such insurance shall be "occurrence" based rather than "claims-made" and include, without limitation, the following types of coverage: premises operations; products and completed operations; contractual liability (including the tort liability of another assumed in a contract); broad form property damage; independent contractors; explosion, collapse and underground (XCU); construction means and methods; and incidental malpractice. Such insurance shall contain a "per project" aggregate limit, as specified in Schedule A, that applies separately to operations under this **Contract**.

22.1.1(a) Such Commercial General Liability Insurance shall name the **City** as an Additional Insured. Coverage for the **City** shall specifically include the **City's** officials and employees, be at least as broad as the latest edition of ISO Form CG 20 10 and provide completed operations coverage at least as broad as the latest edition of ISO Form CG 20 37.

22.1.1(b) Such Commercial General Liability Insurance shall name all other entities designated as additional insureds in Schedule A but only for claims arising from the **Contractor's** operations under this **Contract**, with coverage at least as broad as the latest edition of ISO Form CG 20 26.

22.1.1(c) If the **Work** requires a permit from the Department of Buildings pursuant to 1 RCNY Section 101-08, at http://www.nyc.gov/html/dob/downloads/rules/1_RCNY_101-08.pdf, the **Contractor** shall provide Commercial General Liability Insurance with limits of at least those required by 1 RCNY section 101-08. If the **Work** does not require such a permit, the minimum limits shall be those provided for in Schedule A.

22.1.1(d) If any of the **Work** includes repair of a waterborne vessel owned by or to be delivered to the **City**, such Commercial General Liability shall include, or be endorsed to include, Ship Repairer's Legal Liability Coverage to protect against, without limitation, liability arising from navigation of such vessels prior to delivery to and acceptance by the **City**.

22.1.2 Workers' Compensation Insurance, Employers' Liability Insurance, and Disability Benefits Insurance: The **Contractor** shall provide, and shall cause its **Subcontractors** to provide, Workers Compensation Insurance, Employers' Liability Insurance, and Disability Benefits Insurance in accordance with the **Laws** of the State of New York on behalf of all employees providing services under this **Contract** (except for those employees, if any, for which the **Laws** require insurance only pursuant to Article 22.1.3).

22.1.3 United States Longshoremen's and Harbor Workers Act and/or Jones Act Insurance: If specified in Schedule A of the General Conditions or if required by **Law**, the **Contractor** shall provide insurance in accordance with the United States Longshoremen's and Harbor Workers Act and/or the Jones Act, on behalf of all qualifying employees providing services under this **Contract**.

22.1.4 Builders Risk Insurance: If specified in Schedule A of the General Conditions, the **Contractor** shall provide Builders Risk Insurance on a completed value form for the total value of the **Work** through **Substantial Completion** of the **Work** in its entirety. Such insurance shall be provided on an All Risk basis and include coverage, without limitation, for windstorm (including named windstorm), storm surge, flood and earth movement. Unless waived by the **Commissioner**, it shall include coverage for ordinance and law, demolition and increased costs of construction, debris removal, pollutant clean up and removal, and expediting costs. Such insurance shall cover, without limitation, (a) all buildings and/or structures involved in the **Work**, as well as temporary structures at the **Site**, and (b) any property that is intended to become a permanent part of such building or structure, whether such property is on the **Site**, in transit or in temporary storage. Policies shall name the **Contractor** as Named Insured and list the **City** as both an Additional Insured and a Loss Payee as its interest may appear.

22.1.4(a) Policies of such insurance shall specify that, in the event a loss occurs at an occupied facility, occupancy of such facility is permitted without the consent of the issuing insurance company.

22.1.4(b) Such insurance may be provided through an Installation Floater, at the **Contractor's** option, if it otherwise conforms with the requirements of this Article 22.1.4.

22.1.5 Commercial Automobile Liability Insurance: The **Contractor** shall provide Commercial Automobile Liability Insurance for liability arising out of ownership, maintenance or use of any owned (if any), non-owned and hired vehicles to be used in connection with this **Contract**. Coverage shall be at least as broad as the latest edition of ISO Form CA0001. If vehicles are used for transporting hazardous materials, the Automobile Liability Insurance shall be endorsed to provide pollution liability broadened coverage for covered vehicles (endorsement CA 99 48) as well as proof of MCS 90.

22.1.6 Contractors Pollution Liability Insurance: If specified in Schedule A of the General Conditions, the **Contractor** shall maintain, or cause the **Subcontractor** doing such **Work** to maintain, Contractors Pollution Liability Insurance covering bodily injury and property damage. Such insurance shall provide coverage for actual, alleged or threatened emission, discharge, dispersal, seepage, release or escape of pollutants (including asbestos), including any loss, cost or expense incurred as a result of any cleanup of pollutants (including asbestos) or in the investigation, settlement or defense of any claim, action, or proceedings arising from the operations under this **Contract**. Such insurance shall be in the **Contractor's** name and list the **City** as an Additional Insured and any other entity specified in Schedule A. Coverage shall include, without limitation, (a) loss of use of damaged property or of property that has not been physically injured, (b) transportation, and (c) non-owned disposal sites.

22.1.6(a) Coverage for the **City** as Additional Insured shall specifically include the **City's** officials and employees and be at least as broad as provided to the **Contractor** for this **Project**.

22.1.6(b) If such insurance is written on a claims-made policy, such policy shall have a retroactive date on or before the effective date of this **Contract**, and continuous coverage shall be maintained, or an extended discovery period exercised, for a period of not less than three (3) years from the time the **Work** under this **Contract** is completed.

22.1.7 Marine Insurance:

22.1.7(a) Marine Protection and Indemnity Insurance: If specified in Schedule A of the General Conditions or if the **Contractor** engages in marine operations in the execution of any part of the **Work**, the **Contractor** shall maintain, or cause the **Subcontractor** doing such **Work** to maintain, Marine Protection and Indemnity Insurance with coverage at least as broad as Form SP-23. The insurance shall provide coverage for the **Contractor** or **Subcontractor** (whichever is doing this **Work**) and for the **City** (together with its officials and employees) and any other entity specified in Schedule A as an Additional Insured for bodily injury and property damage arising from marine operations under this **Contract**. Coverage shall include, without limitation, injury or death of crew members (if not fully provided through other insurance), removal of wreck, damage to piers, wharves and other fixed or floating objects and loss of or damage to any other vessel or craft, or to property on such other vessel or craft.

22.1.7(b) Hull and Machinery Insurance: If specified in Schedule A of the General Conditions or if the **Contractor** engages in marine operations in the execution of any part of the **Work**, the **Contractor** shall maintain, or cause the **Subcontractor** doing such **Work** to maintain, Hull and Machinery Insurance with coverage for the **Contractor** or **Subcontractor** (whichever is doing this **Work**) and for the **City** (together with its officials and employees) as Additional Insured at least as broad as the latest edition of American Institute Tug Form for all tugs used under this **Contract** and Collision Liability at least as broad as the latest edition of American Institute Hull Clauses.

22.1.7(c) Marine Pollution Liability Insurance: If specified in Schedule A of the General Conditions or if the **Contractor** engages in marine operations in the execution of any part of the **Work**, the **Contractor** shall maintain, or cause the **Subcontractor** doing such **Work** to maintain, Marine Pollution Liability Insurance covering itself (or the **Subcontractor** doing such **Work**) as Named Insured and the **City** (together with its officials and employees) and any other entity specified in Schedule A as an Additional Insured. Coverage shall be at least as broad as that provided by the latest edition of Water Quality Insurance Syndicate Form and include, without limitation, liability arising from the discharge or substantial threat of a discharge of oil, or from the release or threatened release of a hazardous substance including injury to, or economic losses resulting from, the destruction of or damage to real property, personal property or natural resources.

22.1.8 The **Contractor** shall provide such other types of insurance, at such minimum limits and with such conditions, as are specified in Schedule A of the General Conditions.

22.2 General Requirements for Insurance Coverage and Policies:

22.2.1 All required insurance policies shall be maintained with companies that may lawfully issue the required policy and have an A.M. Best rating of at least A-/VII or a Standard and Poor's rating of at least A, unless prior written approval is obtained from the **City** Corporation Counsel.

22.2.2 The **Contractor** shall be solely responsible for the payment of all premiums for all required policies and all deductibles and self-insured retentions to which such policies are subject, whether or not the **City** is an insured under the policy.

22.2.3 In his/her sole discretion, the **Commissioner** may, subject to the approval of the **Comptroller** and the **City** Corporation Counsel, accept Letters of Credit and/or custodial accounts in lieu of required insurance.

22.2.4 The **City's** limits of coverage for all types of insurance required pursuant to Schedule A of the General Conditions shall be the greater of (i) the minimum limits set forth in Schedule A or (ii) the limits provided to the **Contractor** as Named Insured under all primary, excess, and umbrella policies of that type of coverage.

22.2.5 The **Contractor** may satisfy its insurance obligations under this Article 22 through primary policies or a combination of primary and excess/umbrella policies, so long as all policies provide the scope of coverage required herein.

22.2.6 Policies of insurance provided pursuant to this Article 22 shall be primary and non-contributing to any insurance or self-insurance maintained by the **City**.

22.3 Proof of Insurance:

22.3.1 For all types of insurance required by Article 22.1 and Schedule A, except for insurance required by Articles 22.1.4 and 22.1.7, the **Contractor** shall file proof of insurance in accordance with this Article 22.3 within ten (10) **Days** of award. For insurance provided pursuant to Articles 22.1.4 and 22.1.7, proof shall be filed by a date specified by the **Commissioner** or ten (10) **Days** prior to the commencement of the portion of the **Work** covered by such policy, whichever is earlier.

22.3.2 For Workers' Compensation Insurance provided pursuant to Article 22.1.2, the **Contractor** shall submit one of the following forms: C-105.2 Certificate of Workers' Compensation Insurance; U-26.3 - State Insurance Fund Certificate of Workers' Compensation Insurance; Request for WC/DB Exemption (Form CE-200); equivalent or successor forms used by the New York State Workers' Compensation Board; or other proof of insurance in a form acceptable to the **Commissioner**. For Disability Benefits Insurance provided pursuant to Article 22.1.2, the Contractor shall submit DB-120.1 - Certificate Of Insurance Coverage Under The NYS Disability Benefits Law, Request for WC/DB Exemption (Form CE-200); equivalent or successor forms used by the New York State Workers' Compensation Board; or other proof of insurance in a form acceptable to the **Commissioner**. ACORD forms are not acceptable.

22.3.3 For policies provided pursuant to all of Article 22.1 other than Article 22.1.2, the **Contractor** shall submit one or more Certificates of Insurance on forms acceptable to the **Commissioner**. All such Certificates of Insurance shall certify (a) the issuance and effectiveness of such policies of insurance, each with the specified minimum limits (b) for insurance secured pursuant to Article 22.1.1 that the **City** and any other entity specified in Schedule A is an Additional Insured with coverage at least as broad as the most recent edition of ISO Forms CG 20 10, CG 20 37, and CG 20 26, as applicable; (c) in the event insurance is required pursuant to Article 22.1.6 and/or Article 22.1.7, that the **City** is an Additional Insured thereunder; (d) the company code issued to the insurance company by the National Association of Insurance Commissioners (the NAIC number); and (e) the number assigned to the **Contract** by the **City**. All such Certificates of Insurance shall be accompanied by either a duly executed "Certification by Broker" in the form contained in Part III of Schedule A or copies of all policies referenced in such Certificate of Insurance as certified by an authorized representative of the issuing insurance carrier. If any policy is not available at the time of submission, certified binders may be submitted until such time as the policy is available, at which time a certified copy of the policy shall be submitted.

22.3.4 Documentation confirming renewals of insurance shall be submitted to the **Commissioner** prior to the expiration date of coverage of policies required under this **Contract**. Such proofs of insurance shall comply with the requirements of Articles 22.3.2 and 22.3.3.

22.3.5 The **Contractor** shall be obligated to provide the **City** with a copy of any policy of insurance provided pursuant to this Article 22 upon the demand for such policy by the **Commissioner** or the **City** Corporation Counsel.

22.4 Operations of the Contractor:

22.4.1 The **Contractor** shall not commence the **Work** unless and until all required certificates have been submitted to and accepted by the **Commissioner**. Acceptance by the **Commissioner** of a certificate does not excuse the **Contractor** from securing insurance

consistent with all provisions of this Article 22 or of any liability arising from its failure to do so.

22.4.2 The **Contractor** shall be responsible for providing continuous insurance coverage in the manner, form, and limits required by this **Contract** and shall be authorized to perform **Work** only during the effective period of all required coverage.

22.4.3 In the event that any of the required insurance policies lapse, are revoked, suspended or otherwise terminated, for whatever cause, the **Contractor** shall immediately stop all **Work**, and shall not recommence **Work** until authorized in writing to do so by the **Commissioner**. Upon quitting the **Site**, except as otherwise directed by the **Commissioner**, the **Contractor** shall leave all plant, materials, equipment, tools, and supplies on the **Site**. **Contract** time shall continue to run during such periods and no extensions of time will be granted. The **Commissioner** may also declare the **Contractor** in default for failure to maintain required insurance.

22.4.4 In the event the **Contractor** receives notice, from an insurance company or other person, that any insurance policy required under this Article 22 shall be cancelled or terminated (or has been cancelled or terminated) for any reason, the **Contractor** shall immediately forward a copy of such notice to both the **Commissioner** and the New York City Comptroller, attn: Office of Contract Administration, Municipal Building, One Centre Street, room 1005, New York, New York 10007. Notwithstanding the foregoing, the **Contractor** shall ensure that there is no interruption in any of the insurance coverage required under this Article 22.

22.4.5 Where notice of loss, damage, occurrence, accident, claim or suit is required under an insurance policy maintained in accordance with this Article 22, the **Contractor** shall notify in writing all insurance carriers that issued potentially responsive policies of any such event relating to any operations under this **Contract** (including notice to Commercial General Liability insurance carriers for events relating to the **Contractor's** own employees) no later than 20 days after such event. For any policy where the **City** is an Additional Insured, such notice shall expressly specify that "this notice is being given on behalf of the City of New York as Insured as well as the Named Insured." Such notice shall also contain the following information: the number of the insurance policy, the name of the named insured, the date and location of the damage, occurrence, or accident, and the identity of the persons or things injured, damaged or lost. The **Contractor** shall simultaneously send a copy of such notice to the City of New York c/o Insurance Claims Specialist, Affirmative Litigation Division, New York City Law Department, 100 Church Street, New York, New York 10007.

22.4.6 In the event of any loss, accident, claim, action, or other event that does or can give rise to a claim under any insurance policy required under this Article 22, the **Contractor** shall at all times fully cooperate with the **City** with regard to such potential or actual claim.

22.5 **Subcontractor Insurance:** In the event the **Contractor** requires any **Subcontractor** to procure insurance with regard to any operations under this **Contract** and requires such **Subcontractor** to name the **Contractor** as an **Additional Insured** thereunder, the **Contractor** shall ensure that the **Subcontractor** name the **City**, including its officials and employees, as an **Additional Insured** with coverage at least as broad as the most recent edition of ISO Form CG 20 26.

22.6 Wherever reference is made in Article 7 or this Article 22 to documents to be sent to the **Commissioner** (e.g., notices, filings, or submissions), such documents shall be sent to the address set forth in Schedule A of the General Conditions. In the event no address is set forth in Schedule A, such documents are to be sent to the **Commissioner's** address as provided elsewhere in this **Contract**.

22.7 Apart from damages or losses covered by insurance provided pursuant to Articles 22.1.2, 22.1.3, or 22.1.5, the **Contractor** waives all rights against the **City**, including its officials and employees, for any damages or losses that are covered under any insurance required under this Article 22 (whether or not such insurance is actually procured or claims are paid thereunder) or any other insurance applicable to the operations of the **Contractor** and/or its employees, agents, or **Subcontractors**.

22.8 In the event the **Contractor** utilizes a self-insurance program to satisfy any of the requirements of this Article 22, the **Contractor** shall ensure that any such self-insurance program provides the **City** with all rights that would be provided by traditional insurance under this Article 22, including but not limited to the defense and indemnification obligations that insurers are required to undertake in liability policies.

22.9 Materiality/Non-Waiver: The **Contractor's** failure to secure policies in complete conformity with this Article 22, or to give an insurance company timely notice of any sort required in this **Contract** or to do anything else required by this Article 22 shall constitute a material breach of this **Contract**. Such breach shall not be waived or otherwise excused by any action or inaction by the **City** at any time.

22.10 Pursuant to General Municipal Law Section 108, this **Contract** shall be void and of no effect unless **Contractor** maintains Workers' Compensation Insurance for the term of this **Contract** to the extent required and in compliance with the New York State Workers' Compensation Law.

22.11 Other Remedies: Insurance coverage provided pursuant to this Article 22 or otherwise shall not relieve the **Contractor** of any liability under this **Contract**, nor shall it preclude the **City** from exercising any rights or taking such other actions available to it under any other provisions of this **Contract** or Law.

ARTICLE 23. MONEY RETAINED AGAINST CLAIMS

23.1 If any claim shall be made by any person or entity (including **Other Contractors** with the **City** on this **Project**) against the **City** or against the **Contractor** and the **City** for any of the following:

(a) An alleged loss, damage, injury, theft or vandalism of any of the kinds referred to in Articles 7 and 12, plus the reasonable costs of defending the **City**, which in the opinion of the **Comptroller** may not be paid by an insurance company (for any reason whatsoever); or

(b) An infringement of copyrights, patents or use of patented articles, tools, etc., as referred to in Article 57; or

(c) Damage claimed to have been caused directly or indirectly by the failure of the **Contractor** to perform the **Work** in strict accordance with this **Contract**,

the amount of such claim, or so much thereof as the **Comptroller** may deem necessary, may be withheld by the **Comptroller**, as security against such claim, from any money due hereunder. The **Comptroller**, in his/her discretion, may permit the **Contractor** to substitute other satisfactory security in lieu of the monies so withheld.

23.2 If an action on such claim is timely commenced and the liability of the **City**, or the **Contractor**, or both, shall have been established therein by a final judgment of a court of competent jurisdiction, or if such claim shall have been admitted by the **Contractor** to be valid, the **Comptroller**

shall pay such judgment or admitted claim out of the monies retained by the **Comptroller** under the provisions of this Article 23, and return the balance, if any, without interest, to the **Contractor**.

ARTICLE 24. MAINTENANCE AND GUARANTY

24.1 The **Contractor** shall promptly repair, replace, restore or rebuild, as the **Commissioner** may determine, any finished **Work** in which defects of materials or workmanship may appear or to which damage may occur because of such defects, during the one (1) year period subsequent to the date of **Substantial Completion** (or use and occupancy in accordance with Article 16), except where other periods of maintenance and guaranty are provided for in Schedule A.

24.2 As security for the faithful performance of its obligations hereunder, the **Contractor**, upon filing its requisition for payment on **Substantial Completion**, shall deposit with the **Commissioner** a sum equal to one (1%) percent of the price (or the amount fixed in Schedule A of the General Conditions) in cash or certified check upon a state or national bank and trust company or a check of such bank and trust company signed by a duly authorized officer thereof and drawn to the order of the **Comptroller**, or obligations of the **City**, which the **Comptroller** may approve as of equal value with the sum so required.

24.3 In lieu of the above, the **Contractor** may make such security payment to the **City** by authorizing the **Commissioner** in writing to deduct the amount from the **Substantial Completion** payment which shall be deemed the deposit required above.

24.4 If the **Contractor** has faithfully performed all of its obligations hereunder the **Commissioner** shall so certify to the **Comptroller** within five (5) **Days** after the expiration of one (1) year from the date of **Substantial Completion** and acceptance of the **Work** or within thirty (30) **Days** after the expiration of the guarantee period fixed in the **Specifications**. The security payment shall be repaid to the **Contractor** without interest within thirty (30) **Days** after certification by the **Commissioner** to the **Comptroller** that the **Contractor** has faithfully performed all of its obligations hereunder.

24.5 Notice by the **Commissioner** to the **Contractor** to repair, replace, rebuild or restore such defective or damaged **Work** shall be timely, pursuant to this article, if given not later than ten (10) **Days** subsequent to the expiration of the one (1) year period or other periods provided for herein.

24.6 If the **Contractor** shall fail to repair, replace, rebuild or restore such defective or damaged **Work** promptly after receiving such notice, the **Commissioner** shall have the right to have the **Work** done by others in the same manner as provided for in the completion of a defaulted **Contract**, under Article 51.

24.7 If the security payment so deposited is insufficient to cover the cost of such **Work**, the **Contractor** shall be liable to pay such deficiency on demand by the **Commissioner**.

24.8 The **Engineer's** certificate setting forth the fair and reasonable cost of repairing, replacing, rebuilding or restoring any damaged or defective **Work** when performed by one other than the **Contractor**, shall be binding and conclusive upon the **Contractor** as to the amount thereof.

24.9 The **Contractor** shall obtain all manufacturers' warranties and guaranties of all equipment and materials required by this **Contract** in the name of the **City** and shall deliver same to the **Commissioner**. All of the **City's** rights and title and interest in and to said manufacturers' warranties and guaranties may be assigned by the **City** to any subsequent purchasers of such equipment and materials or lessees of the premises into which the equipment and materials have been installed.

CHAPTER VI
CHANGES, EXTRA WORK, AND DOCUMENTATION OF CLAIM

ARTICLE 25. CHANGES

25.1 Changes may be made to this **Contract** only as duly authorized in writing by the **Commissioner** in accordance with the **Law** and this **Contract**. All such changes, modifications, and amendments will become a part of the **Contract**. **Work** so ordered shall be performed by the **Contractor**.

25.2 **Contract** changes will be made only for **Work** necessary to complete the **Work** included in the original scope of the **Contract** and/or for non-material changes to the scope of the **Contract**. Changes are not permitted for any material alteration in the scope of **Work** in the **Contract**.

25.3 The **Contractor** shall be entitled to a price adjustment for **Extra Work** performed pursuant to a written change order. Adjustments to price shall be computed in one or more of the following ways:

25.3.1 By applicable unit prices specified in the **Contract**; and/or

25.3.2 By agreement of a fixed price; and/or

25.3.3 By time and material records; and/or

25.3.4 In any other manner approved by the **CCPO**.

25.4 All payments for change orders are subject to pre-audit by the **Engineering Audit Officer** and may be post-audited by the **Comptroller** and/or the **Agency**.

ARTICLE 26. METHODS OF PAYMENT FOR OVERRUNS AND EXTRA WORK

26.1 **Overrun of Unit Price Item:** An overrun is any quantity of a unit price item which the **Contractor** is directed to provide which is in excess of one hundred twenty-five (125%) percent of the estimated quantity for that item set forth in the bid schedule.

26.1.1 For any unit price item, the **Contractor** will be paid at the unit price bid for any quantity up to one hundred twenty-five (125%) percent of the estimated quantity for that item set forth in the bid schedule. If during the progress of the **Work**, the actual quantity of any unit price item required to complete the **Work** approaches the estimated quantity for that item, and for any reason it appears that the actual quantity of any unit price item necessary to complete the **Work** will exceed the estimated quantity for that item by twenty-five (25%) percent, the **Contractor** shall immediately notify the **Engineer** of such anticipated overrun. The **Contractor** shall not be compensated for any quantity of a unit price item provided which is in excess of one hundred twenty-five (125%) percent of the estimated quantity for that item set forth in the bid schedule without written authorization from the **Engineer**.

26.1.2 If the actual quantity of any unit price item necessary to complete the **Work** will exceed one hundred twenty five (125%) percent of the estimated quantity for that item set forth in the bid schedule, the **City** reserves the right and the **Contractor** agrees to negotiate a new unit price for such item. In no event shall such negotiated new unit price exceed the unit bid price. If the **City** and **Contractor** cannot agree on a new unit price, then the **City** shall order the **Contractor** and the **Contractor** agrees to provide additional quantities of the

item on the basis of time and material records for the actual and reasonable cost as determined under Article 26.2, but in no event at a unit price exceeding the unit price bid.

26.2 Extra Work: For **Extra Work** where payment is by agreement on a fixed price in accordance with Article 25.3.2, the price to be paid for such **Extra Work** shall be based on the fair and reasonable estimated cost of the items set forth below. For **Extra Work** where payment is based on time and material records in accordance with Article 25.3.3, the price to be paid for such **Extra Work** shall be the actual and reasonable cost of the items set forth below, calculated in accordance with the formula specified therein, if any.

26.2.1 Necessary materials (including transportation to the **Site**); plus

26.2.2 Necessary direct labor, including payroll taxes (subject to statutory wage caps) and supplemental benefits; plus

26.2.3 Sales and personal property taxes, if any, required to be paid on materials not incorporated into such **Extra Work**; plus

26.2.4 Reasonable rental value of **Contractor**-owned (or **Subcontractor**-owned, as applicable), necessary plant and equipment other than **Small Tools**, plus fuel/energy costs. Except for fuel costs for pick-up trucks which shall be reimbursed based on a consumption of five (5) gallons per shift, fuel costs shall be reimbursed based on actual costs or, in the absence of auditable documentation, the following fuel consumption formula per operating hour: $(.035) \times (\text{HP rating}) \times (\text{Fuel cost/gallon})$. Reasonable rental value is defined as the lower of either seventy-five percent of the monthly prorated rental rates established in "The AED Green Book, Rental Rates and Specifications for Construction Equipment" published by Equipment Watch (the "Green Book"), or seventy-five percent of the monthly prorated rental rates established in the "Rental Rate Blue Book for Construction Equipment" published by Equipment Watch (the "Blue Book") (the applicable Blue Book rate being for rental only without the addition of any operational costs listed in the Blue Book). The reasonable rental value is deemed to be inclusive of all operating costs except for fuel/energy consumption and equipment operator's wages/costs. For multiple shift utilization, reimbursement shall be calculated as follows: first shift shall be seventy-five (75%) percent of such rental rates; second shift shall be sixty (60%) percent of the first shift rate; and third shift shall be forty (40%) percent of the first shift rate. Equipment on standby shall be reimbursed at one-third (1/3) the prorated monthly rental rate. **Contractor**-owned (or **Subcontractor**-owned, as applicable) equipment includes equipment from rental companies affiliated with or controlled by the **Contractor** (or **Subcontractor**, as applicable), as determined by the **Commissioner**. In establishing cost reimbursement for non-operating **Contractor**-owned (or **Subcontractor**-owned, as applicable) equipment (scaffolding, sheeting systems, road plates, etc.), the **City** may restrict reimbursement to a purchase-salvage/life cycle basis if less than the computed rental costs; plus

26.2.5 Necessary installation and dismantling of such plant and equipment, including transportation to and from the **Site**, if any, provided that, in the case of non-**Contractor**-owned (or non-**Subcontractor**-owned, as applicable) equipment rented from a third party, the cost of installation and dismantling are not allowable if such costs are included in the rental rate; plus

26.2.6 Necessary fees charged by governmental entities; plus

26.2.7 Necessary construction-related service fees charged by non-governmental entities, such as landfill tipping fees; plus

26.2.8 Reasonable rental costs of non-**Contractor**-owned (or non-**Subcontractor**-owned, as applicable) necessary plant and equipment other than **Small Tools**, plus fuel/energy costs. Except for fuel costs for pick-up trucks which shall be reimbursed based on a consumption of five (5) gallons per shift, fuel costs shall be reimbursed based on actual costs or, in the absence of auditable documentation, the following fuel consumption formula per hour of operation: $(.035) \times (\text{HP rating}) \times (\text{Fuel cost/gallon})$. In lieu of renting, the **City** reserves the right to direct the purchase of non-operating equipment (scaffolding, sheeting systems, road plates, etc.), with payment on a purchase-salvage/life cycle basis, if less than the projected rental costs; plus

26.2.9 Workers' Compensation Insurance, and any insurance coverage expressly required by the **City** for the performance of the **Extra Work** which is different than the types of insurance required by Article 22 and Schedule A of the General Conditions. The cost of Workers' Compensation Insurance is subject to applicable payroll limitation caps and shall be based upon the carrier's Manual Rate for such insurance derived from the applicable class Loss Cost ("LC") and carrier's Lost Cost Multiplier ("LCM") approved by the New York State Department of Financial Services, and with the exception of experience rating, rate modifiers as promulgated by the New York Compensation Insurance Rating Board ("NYCIRB"); plus

26.2.10 Additional costs incurred as a result of the **Extra Work** for performance and payment bonds; plus

26.2.11 Twelve percent (12%) percent of the total of items in Articles 26.2.1 through 26.2.5 as compensation for overhead, except that no percentage for overhead will be allowed on **Payroll Taxes** or on the premium portion of overtime pay or on sales and personal property taxes. Overhead shall include without limitation, all costs and expenses in connection with administration, management superintendence, small tools, and insurance required by Schedule A of the General Conditions other than Workers' Compensation Insurance; plus

26.2.12 Ten (10%) percent of the total of items in Articles 26.2.1 through 26.2.5, plus the items in Article 26.2.11, as compensation for profit, except that no percentage for profit will be allowed on **Payroll Taxes** or on the premium portion of overtime pay or on sales and personal property taxes; plus

26.2.13 Five (5%) percent of the total of items in Articles 26.2.6 through 26.2.10 as compensation for overhead and profit.

26.3 Where the **Extra Work** is performed in whole or in part by other than the **Contractor's** own forces pursuant to Article 26.2, the **Contractor** shall be paid, subject to pre-audit by the **Engineering Audit Officer**, the cost of such **Work** computed in accordance with Article 26.2 above, plus an additional allowance of five (5%) percent to cover the **Contractor's** overhead and profit.

26.4 Where a change is ordered, involving both **Extra Work** and omitted or reduced **Contract Work**, the **Contract** price shall be adjusted, subject to pre-audit by the **EAO**, in an amount based on the difference between the cost of such **Extra Work** and of the omitted or reduced **Work**.

26.5 Where the **Contractor** and the **Commissioner** can agree upon a fixed price for **Extra Work** in accordance with Article 25.3.2 or another method of payment for **Extra Work** in accordance with Article

25.3.4, or for **Extra Work** ordered in connection with omitted **Work**, such method, subject to pre-audit by the **EAO**, may, at the option of the **Commissioner**, be substituted for the cost plus a percentage method provided in Article 26.2; provided, however, that if the **Extra Work** is performed by a **Subcontractor**, the **Contractor** shall not be entitled to receive more than an additional allowance of five (5%) percent for overhead and profit over the cost of such **Subcontractor's Work** as computed in accordance with Article 26.2.

ARTICLE 27. RESOLUTION OF DISPUTES

27.1 All disputes between the **City** and the **Contractor** of the kind delineated in this Article 27.1 that arise under, or by virtue of, this **Contract** shall be finally resolved in accordance with the provisions of this Article 27 and the **PPB Rules**. This procedure for resolving all disputes of the kind delineated herein shall be the exclusive means of resolving any such disputes.

27.1.1 This Article 27 shall not apply to disputes concerning matters dealt with in other sections of the **PPB Rules**, or to disputes involving patents, copyrights, trademarks, or trade secrets (as interpreted by the courts of New York State) relating to proprietary rights in computer software.

27.1.2 This Article 27 shall apply only to disputes about the scope of **Work** delineated by the **Contract**, the interpretation of **Contract** documents, the amount to be paid for **Extra Work** or disputed work performed in connection with the **Contract**, the conformity of the **Contractor's Work** to the **Contract**, and the acceptability and quality of the **Contractor's Work**; such disputes arise when the **Engineer**, **Resident Engineer**, **Engineering Audit Officer**, or other designee of the **Commissioner** makes a determination with which the **Contractor** disagrees.

27.2 All determinations required by this Article 27 shall be made in writing clearly stated, with a reasoned explanation for the determination based on the information and evidence presented to the party making the determination. Failure to make such determination within the time required by this Article 27 shall be deemed a non-determination without prejudice that will allow application to the next level.

27.3 During such time as any dispute is being presented, heard, and considered pursuant to this Article 27, the **Contract** terms shall remain in force and the **Contractor** shall continue to perform **Work** as directed by the **ACCO** or the **Engineer**. Failure of the **Contractor** to continue **Work** as directed shall constitute a waiver by the **Contractor** of its claim.

27.4 Presentation of Disputes to Commissioner.

Notice of Dispute and Agency Response. The **Contractor** shall present its dispute in writing ("Notice of Dispute") to the **Commissioner** within thirty (30) Days of receiving written notice of the determination or action that is the subject of the dispute. This notice requirement shall not be read to replace any other notice requirements contained in the **Contract**. The Notice of Dispute shall include all the facts, evidence, documents, or other basis upon which the **Contractor** relies in support of its position, as well as a detailed computation demonstrating how any amount of money claimed by the **Contractor** in the dispute was arrived at. Within thirty (30) Days after receipt of the detailed written submission comprising the complete Notice of Dispute, the **Engineer**, **Resident Engineer**, **Engineering Audit Officer**, or other designee of the **Commissioner** shall submit to the **Commissioner** all materials he or she deems pertinent to the dispute. Following initial submissions to the **Commissioner**, either party may demand of the other the production of any document or other material the demanding party believes may be relevant to the dispute. The requested party shall produce all relevant materials that are not otherwise

protected by a legal privilege recognized by the courts of New York State. Any question of relevancy shall be determined by the **Commissioner** whose decision shall be final. Willful failure of the **Contractor** to produce any requested material whose relevancy the **Contractor** has not disputed, or whose relevancy has been affirmatively determined, shall constitute a waiver by the **Contractor** of its claim.

27.4.1 **Commissioner Inquiry.** The **Commissioner** shall examine the material and may, in his or her discretion, convene an informal conference with the **Contractor**, the **ACCO**, and the **Engineer, Resident Engineer, Engineering Audit Officer**, or other designee of the **Commissioner** to resolve the issue by mutual consent prior to reaching a determination. The **Commissioner** may seek such technical or other expertise as he or she shall deem appropriate, including the use of neutral mediators, and require any such additional material from either or both parties as he or she deems fit. The **Commissioner's** ability to render, and the effect of, a decision hereunder shall not be impaired by any negotiations in connection with the dispute presented, whether or not the **Commissioner** participated therein. The **Commissioner** may or, at the request of any party to the dispute, shall compel the participation of any **Other Contractor** with a contract related to the **Work** of this **Contract**, and that **Contractor** shall be bound by the decision of the **Commissioner**. Any **Other Contractor** thus brought into the dispute resolution proceeding shall have the same rights and obligations under this Article 27 as the **Contractor** initiating the dispute.

27.4.2 **Commissioner Determination.** Within thirty (30) **Days** after the receipt of all materials and information, or such longer time as may be agreed to by the parties, the **Commissioner** shall make his or her determination and shall deliver or send a copy of such determination to the **Contractor**, the **ACCO**, and **Engineer, Resident Engineer, Engineering Audit Officer**, or other designee of the **Commissioner**, as applicable, together with a statement concerning how the decision may be appealed.

27.4.3 **Finality of Commissioner's Decision.** The **Commissioner's** decision shall be final and binding on all parties, unless presented to the Contract Dispute Resolution Board pursuant to this Article 27. The **City** may not take a petition to the Contract Dispute Resolution Board. However, should the **Contractor** take such a petition, the **City** may seek, and the Contract Dispute Resolution Board may render, a determination less favorable to the **Contractor** and more favorable to the **City** than the decision of the **Commissioner**.

27.5 **Presentation of Dispute to the Comptroller.** Before any dispute may be brought by the **Contractor** to the Contract Dispute Resolution Board, the **Contractor** must first present its claim to the **Comptroller** for his or her review, investigation, and possible adjustment.

27.5.1 **Time, Form, and Content of Notice.** Within thirty (30) **Days** of its receipt of a decision by the **Commissioner**, the **Contractor** shall submit to the **Comptroller** and to the **Commissioner** a Notice of Claim regarding its dispute with the **Agency**. The Notice of Claim shall consist of (i) a brief written statement of the substance of the dispute, the amount of money, if any, claimed and the reason(s) the **Contractor** contends the dispute was wrongly decided by the **Commissioner**; (ii) a copy of the written decision of the **Commissioner**; and (iii) a copy of all materials submitted by the **Contractor** to the **Agency**, including the Notice of Dispute. The **Contractor** may not present to the **Comptroller** any material not presented to the **Commissioner**, except at the request of the **Comptroller**.

27.5.2 **Response.** Within thirty (30) **Days** of receipt of the Notice of Claim, the **Agency** shall make available to the **Comptroller** a copy of all material submitted by the **Agency** to the **Commissioner** in connection with the dispute. The **Agency** may not present to the

Comptroller any material not presented to the **Commissioner** except at the request of the **Comptroller**.

27.5.3 Comptroller Investigation. The **Comptroller** may investigate the claim in dispute and, in the course of such investigation, may exercise all powers provided in Sections 7-201 and 7-203 of the Administrative Code. In addition, the **Comptroller** may demand of either party, and such party shall provide, whatever additional material the **Comptroller** deems pertinent to the claim, including original business records of the **Contractor**. Willful failure of the **Contractor** to produce within fifteen (15) **Days** any material requested by the **Comptroller** shall constitute a waiver by the **Contractor** of its claim. The **Comptroller** may also schedule an informal conference to be attended by the **Contractor**, **Agency** representatives, and any other personnel desired by the **Comptroller**.

27.5.4 Opportunity of Comptroller to Compromise or Adjust Claim. The **Comptroller** shall have forty-five (45) **Days** from his or her receipt of all materials referred to in Article 27.5.3 to investigate the disputed claim. The period for investigation and compromise may be further extended by agreement between the **Contractor** and the **Comptroller**, to a maximum of ninety (90) **Days** from the **Comptroller's** receipt of all materials. The **Contractor** may not present its petition to the Contract Dispute Resolution Board until the period for investigation and compromise delineated in this Article 27.5.4 has expired. In compromising or adjusting any claim hereunder, the **Comptroller** may not revise or disregard the terms of the **Contract** between the parties.

27.6 Contract Dispute Resolution Board. There shall be a Contract Dispute Resolution Board composed of:

27.6.1 The chief administrative law judge of the Office of Administrative Trials and Hearings (OATH) or his/her designated OATH administrative law judge, who shall act as chairperson, and may adopt operational procedures and issue such orders consistent with this Article 27 as may be necessary in the execution of the Contract Dispute Resolution Board's functions, including, but not limited to, granting extensions of time to present or respond to submissions;

27.6.2 The **CCPO** or his/her designee; any designee shall have the requisite background to consider and resolve the merits of the dispute and shall not have participated personally and substantially in the particular matter that is the subject of the dispute or report to anyone who so participated; and

27.6.3 A person with appropriate expertise who is not an employee of the **City**. This person shall be selected by the presiding administrative law judge from a prequalified panel of individuals, established and administered by OATH with appropriate background to act as decision-makers in a dispute. Such individual may not have a contract or dispute with the **City** or be an officer or employee of any company or organization that does, or regularly represents persons, companies, or organizations having disputes with the **City**.

27.7 Petition to the Contract Dispute Resolution Board. In the event the claim has not been settled or adjusted by the **Comptroller** within the period provided in this Article 27, the **Contractor**, within thirty (30) **Days** thereafter, may petition the Contract Dispute Resolution Board to review the **Commissioner's** determination.

27.7.1 Form and Content of Petition by Contractor. The **Contractor** shall present its dispute to the Contract Dispute Resolution Board in the form of a petition, which shall

include (i) a brief written statement of the substance of the dispute, the amount of money, if any, claimed, and the reason(s) the **Contractor** contends the dispute was wrongly decided by the **Commissioner**; (ii) a copy of the written Decision of the **Commissioner**, (iii) copies of all materials submitted by the **Contractor** to the Agency; (iv) a copy of the written decision of the **Comptroller**, if any, and (v) copies of all correspondence with, or written material submitted by the **Contractor**, to the **Comptroller**. The **Contractor** shall concurrently submit four (4) complete sets of the Petition: one set to the City Corporation Counsel (Attn: Commercial and Real Estate Litigation Division) and three (3) sets to the Contract Dispute Resolution Board at OATH's offices with proof of service on the City Corporation Counsel. In addition, the **Contractor** shall submit a copy of the written statement of the substance of the dispute, cited in (i) above, to both the **Commissioner** and the **Comptroller**.

27.7.2 Agency Response. Within thirty (30) Days of its receipt of the Petition by the City Corporation Counsel, the **Agency** shall respond to the brief written statement of the **Contractor** and make available to the Contract Dispute Resolution Board all material it submitted to the **Commissioner** and **Comptroller**. Three (3) complete copies of the **Agency** response shall be provided to the Contract Dispute Resolution Board and one to the **Contractor**. Extensions of time for submittal of the **Agency** response shall be given as necessary upon a showing of good cause or, upon consent of the parties, for an initial period of up to thirty (30) Days.

27.7.3 Further Proceedings. The Contract Dispute Resolution Board shall permit the **Contractor** to present its case by submission of memoranda, briefs, and oral argument. The Contract Dispute Resolution Board shall also permit the **Agency** to present its case in response to the **Contractor** by submission of memoranda, briefs, and oral argument. If requested by the City Corporation Counsel, the **Comptroller** shall provide reasonable assistance in the preparation of the **Agency's** case. Neither the **Contractor** nor the **Agency** may support its case with any documentation or other material that was not considered by the **Comptroller**, unless requested by the Contract Dispute Resolution Board. The Contract Dispute Resolution Board, in its discretion, may seek such technical or other expert advice as it shall deem appropriate and may seek, on its own or upon application of a party, any such additional material from any party as it deems fit. The Contract Dispute Resolution Board, in its discretion, may combine more than one dispute between the parties for concurrent resolution.

27.7.4 Contract Dispute Resolution Board Determination. Within forty-five (45) Days of the conclusion of all written submissions and oral arguments, the Contract Dispute Resolution Board shall render a written decision resolving the dispute. In an unusually complex case, the Contract Dispute Resolution Board may render its decision in a longer period, not to exceed ninety (90) Days, and shall so advise the parties at the commencement of this period. The Contract Dispute Resolution Board's decision must be consistent with the terms of the **Contract**. Decisions of the Contract Dispute Resolution Board shall only resolve matters before the Contract Dispute Resolution Board and shall not have precedential effect with respect to matters not before the Contract Dispute Resolution Board.

27.7.5 Notification of Contract Dispute Resolution Board Decision. The Contract Dispute Resolution Board shall send a copy of its decision to the **Contractor**, the **ACCO**, the Engineer, the **Comptroller**, the City Corporation Counsel, the **CCPO**, and the **PPB**. A decision in favor of the **Contractor** shall be subject to the prompt payment provisions of the **PPB Rules**. The Required Payment Date shall be thirty (30) Days after the date the parties are formally notified of the Contract Dispute Resolution Board's decision.

27.7.6 Finality of Contract Dispute Resolution Board Decision. The Contract Dispute Resolution

Board's decision shall be final and binding on all parties. Any party may seek review of the Contract Dispute Resolution Board's decision solely in the form of a challenge, filed within four (4) months of the date of the Contract Dispute Resolution Board's decision, in a court of competent jurisdiction of the State of New York, County of New York pursuant to Article 78 of the Civil Practice Law and Rules. Such review by the court shall be limited to the question of whether or not the Contract Dispute Resolution Board's decision was made in violation of lawful procedure, was affected by an error of Law, or was arbitrary and capricious or an abuse of discretion. No evidence or information shall be introduced or relied upon in such proceeding that was not presented to the Contract Dispute Resolution Board in accordance with this Article 27.

27.8 Any termination, cancellation, or alleged breach of the Contract prior to or during the pendency of any proceedings pursuant to this Article 27 shall not affect or impair the ability of the Commissioner or Contract Dispute Resolution Board to make a binding and final decision pursuant to this Article 27.

ARTICLE 28. RECORD KEEPING FOR EXTRA OR DISPUTED WORK OR WORK ON A TIME & MATERIALS BASIS

28.1 While the Contractor or any of its Subcontractors is performing Work on a time and material basis or Extra Work on a time and material basis ordered by the Commissioner under Article 25, or where the Contractor believes that it or any of its Subcontractors is performing Extra Work but a final determination by Agency has not been made, or the Contractor or any of its Subcontractors is performing disputed Work (whether on or off the Site), or complying with a determination or order under protest in accordance with Articles 11, 27, and 30, in each such case the Contractor shall furnish the Resident Engineer daily with three (3) copies of written statements signed by the Contractor's representative at the Site showing:

28.1.1 The name, trade, and number of each worker employed on such Work or engaged in complying with such determination or order, the number of hours employed, and the character of the Work each is doing; and

28.1.2 The nature and quantity of any materials, plant and equipment furnished or used in connection with the performance of such Work or compliance with such determination or order, and from whom purchased or rented.

28.2 A copy of such statement will be countersigned by the Resident Engineer, noting thereon any items not agreed to or questioned, and will be returned to the Contractor within two (2) Days after submission.

28.3 The Contractor and its Subcontractors, when required by the Commissioner, or the Comptroller, shall also produce for inspection, at the office of the Contractor or Subcontractor, any and all of its books, bid documents, financial statements, vouchers, records, daily job diaries and reports, and cancelled checks, and any other documents relating to showing the nature and quantity of the labor, materials, plant and equipment actually used in the performance of such Work, or in complying with such determination or order, and the amounts expended therefor, and shall permit the Commissioner and the Comptroller to make such extracts therefrom, or copies thereof, as they or either of them may desire.

28.4 In connection with the examination provided for herein, the Commissioner, upon demand therefor, will produce for inspection by the Contractor such records as the Agency may have with

respect to such **Extra Work** or disputed **Work** performed under protest pursuant to order of the **Commissioner**, except those records and reports which may have been prepared for the purpose of determining the accuracy and validity of the **Contractor's** claim.

28.5 Failure to comply strictly with these requirements shall constitute a waiver of any claim for extra compensation or damages on account of the performance of such **Work** or compliance with such determination or order.

ARTICLE 29. OMITTED WORK

29.1 If any **Contract Work** in a lump sum **Contract**, or if any part of a lump sum item in a unit price, lump sum, or percentage-bid **Contract** is omitted by the **Commissioner** pursuant to Article 33, the **Contract** price, subject to audit by the EAO, shall be reduced by a pro rata portion of the lump sum bid amount based upon the percent of **Work** omitted subject to Article 29.4. For the purpose of determining the pro rata portion of the lump sum bid amount, the bid breakdown submitted in accordance with Article 41 shall be considered, but shall not be the determining factor.

29.2 If the whole of a lump sum item or units of any other item is so omitted by the **Commissioner** in a unit price, lump sum, or percentage-bid **Contract**, then no payment will be made therefor except as provided in Article 29.4.

29.3 For units that have been ordered but are only partially completed, the unit price shall be reduced by a pro rata portion of the unit price bid based upon the percentage of **Work** omitted subject to Article 29.4.

29.4 In the event the **Contractor**, with respect to any omitted **Work**, has purchased any non-cancelable material and/or equipment that is not capable of use except in the performance of this **Contract** and has been specifically fabricated for the sole purpose of this **Contract**, but not yet incorporated into the **Work**, the **Contractor** shall be paid for such material and/or equipment in accordance with Article 64.2.1(b); provided, however, such payment is contingent upon the **Contractor's** delivery of such material and/or equipment in acceptable condition to a location designated by the **City**.

29.5 The **Contractor** agrees to make no claim for damages or for loss of overhead and profit with regard to any omitted **Work**.

ARTICLE 30. NOTICE AND DOCUMENTATION OF COSTS AND DAMAGES; PRODUCTION OF FINANCIAL RECORDS

30.1 If the **Contractor** shall claim to be sustaining damages by reason of any act or omission of the **City** or its agents, it shall submit to the **Commissioner** within forty-five (45) **Days** from the time such damages are first incurred, and every thirty (30) **Days** thereafter for as long as such damages are incurred, verified statements of the details and the amounts of such damages, together with documentary evidence of such damages. The **Contractor** may submit any of the above statements within such additional time as may be granted by the **Commissioner** in writing upon written request therefor. Failure of the **Commissioner** to respond in writing to a written request for additional time within thirty (30) **Days** shall be deemed a denial of the request. On failure of the **Contractor** to strictly comply with the foregoing provisions, such claims shall be deemed waived and no right to recover on such claims shall exist. Damages that the **Contractor** may claim in any action or dispute resolution procedure arising under or by reason of this **Contract** shall not be different from or in excess of the statements and documentation made pursuant to this Article 30.

30.2 In addition to the foregoing statements, the **Contractor** shall, upon notice from the **Commissioner**, produce for examination at the **Contractor's** office, by the **Engineer, Architect or Project Manager**, all of its books of account, bills, invoices, payrolls, subcontracts, time books, daily reports, bank deposit books, bank statements, check books, and cancelled checks, showing all of its acts and transactions in connection with or relating to or arising by reason of this **Contract**, and submit itself and persons in its employment, for examination under oath by any person designated by the **Commissioner** or **Comptroller** to investigate claims made or disputes against the **City** under this **Contract**. At such examination, a duly authorized representative of the **Contractor** may be present.

30.3 In addition to the statements required under Article 28 and this Article 30, the **Contractor** and/or its **Subcontractor** shall, within thirty (30) **Days** upon notice from the **Commissioner** or **Comptroller**, produce for examination at the **Contractor's** and/or **Subcontractor's** office, by a representative of either the **Commissioner** or **Comptroller**, all of its books of account, bid documents, financial statements, accountant workpapers, bills, invoices, payrolls, subcontracts, time books, daily reports, bank deposit books, bank statements, check books, and cancelled checks, showing all of its acts and transactions in connection with or relating to or arising by reason of this **Contract**. Further, the **Contractor** and/or its **Subcontractor** shall submit any person in its employment, for examination under oath by any person designated by the **Commissioner** or **Comptroller** to investigate claims made or disputes against the **City** under this **Contract**. At such examination, a duly authorized representative of the **Contractor** may be present.

30.4 Unless the information and examination required under Article 30.3 is provided by the **Contractor** and/or its **Subcontractor** upon thirty (30) **Days'** notice from the **Commissioner** or **Comptroller**, or upon the **Commissioner's** or **Comptroller's** written authorization to extend the time to comply, the **City** shall be released from all claims arising under, relating to or by reason of this **Contract**, except for sums certified by the **Commissioner** to be due under the provisions of this **Contract**. It is further stipulated and agreed that no person has the power to waive any of the foregoing provisions and that in any action or dispute resolution procedure against the **City** to recover any sum in excess of the sums certified by the **Commissioner** to be due under or by reason of this **Contract**, the **Contractor** must allege in its complaint and prove, at trial or during such dispute resolution procedure, compliance with the provisions of this Article 30.

30.5 In addition, after the commencement of any action or dispute resolution procedure by the **Contractor** arising under or by reason of this **Contract**, the **City** shall have the right to require the **Contractor** to produce for examination under oath, up until the trial of the action or hearing before the Contract Dispute Resolution Board, the books and documents described in Article 30.3 and submit itself and all persons in its employ for examination under oath. If this Article 30 is not complied with as required, then the **Contractor** hereby consents to the dismissal of the action or dispute resolution procedure.

CHAPTER VII POWERS OF THE RESIDENT ENGINEER, THE ENGINEER OR ARCHITECT AND THE COMMISSIONER

ARTICLE 31. THE RESIDENT ENGINEER

31.1 The **Resident Engineer** shall have the power to inspect, supervise, and control the performance of the **Work**, subject to review by the **Commissioner**. The **Resident Engineer** shall not, however, have the power to issue an **Extra Work** order, except as specifically designated in writing by the **Commissioner**.

ARTICLE 32. THE ENGINEER OR ARCHITECT OR PROJECT MANAGER

32.1 The **Engineer or Architect or Project Manager**, in addition to those matters elsewhere herein delegated to the **Engineer** and expressly made subject to his/her determination, direction or approval, shall have the power, subject to review by the **Commissioner**:

32.1.1 To determine the amount, quality, and location of the **Work** to be paid for hereunder; and

32.1.2 To determine all questions in relation to the **Work**, to interpret the **Contract Drawings, Specifications, and Addenda**, and to resolve all patent inconsistencies or ambiguities therein; and

32.1.3 To determine how the **Work** of this **Contract** shall be coordinated with **Work of Other Contractors** engaged simultaneously on this **Project**, including the power to suspend any part of the **Work**, but not the whole thereof; and

32.1.4 To make minor changes in the **Work** as he/she deems necessary, provided such changes do not result in a net change in the cost to the **City** or to the **Contractor** of the **Work** to be done under the **Contract**; and

32.1.5 To amplify the **Contract Drawings**, add explanatory information and furnish additional **Specifications** and drawings, consistent with this **Contract**.

32.2 The foregoing enumeration shall not imply any limitation upon the power of the **Engineer or Architect or Project Manager**, for it is the intent of this **Contract** that all of the **Work** shall generally be subject to his/her determination, direction, and approval, except where the determination, direction or approval of someone other than the **Engineer or Architect or Project Manager** is expressly called for herein.

32.3 The **Engineer or Architect or Project Manager** shall not, however, have the power to issue an **Extra Work** order, except as specifically designated in writing by the **Commissioner**.

ARTICLE 33. THE COMMISSIONER

33.1 The **Commissioner**, in addition to those matters elsewhere herein expressly made subject to his/her determination, direction or approval, shall have the power:

33.1.1 To review and make determinations on any and all questions in relation to this **Contract** and its performance; and

33.1.2 To modify or change this **Contract** so as to require the performance of **Extra Work** (subject, however, to the limitations specified in Article 25) or the omission of **Contract Work**; and

33.1.3 To suspend the whole or any part of the **Work** whenever in his/her judgment such suspension is required:

33.1.3(a) In the interest of the **City** generally; or

33.1.3(b) To coordinate the **Work** of the various contractors engaged on this **Project** pursuant to the provisions of Article 12; or

33.1.3(c) To expedite the completion of the entire **Project** even though the completion of this particular **Contract** may thereby be delayed.

ARTICLE 34. NO ESTOPPEL

34.1 Neither the **City** nor any **Agency**, official, agent or employee thereof, shall be bound, precluded or estopped by any determination, decision, approval, order, letter, payment or certificate made or given under or in connection with this **Contract** by the **City**, the **Commissioner**, the **Engineer**, the **Resident Engineer**, or any other official, agent or employee of the **City**, either before or after the final completion and acceptance of the **Work** and payment therefor:

34.1.1 From showing the true and correct classification, amount, quality or character of the **Work** actually done; or that any such determination, decision, order, letter, payment or certificate was untrue, incorrect or improperly made in any particular, or that the **Work**, or any part thereof, does not in fact conform to the requirements of this **Contract**; and

34.1.2 From demanding and recovering from the **Contractor** any overpayment made to it, or such damages as the **City** may sustain by reason of the **Contractor's** failure to perform each and every part of its **Contract**.

CHAPTER VIII LABOR PROVISIONS

ARTICLE 35. EMPLOYEES

35.1 The **Contractor** and its **Subcontractors** shall not employ on the **Work**:

35.1.1 Anyone who is not competent, faithful and skilled in the **Work** for which he/she shall be employed; and whenever the **Commissioner** shall inform the **Contractor**, in writing, that any employee is, in his/her opinion, incompetent, unfaithful or disobedient, that employee shall be discharged from the **Work** forthwith, and shall not again be employed upon it; or

35.1.2 Any labor, materials or means whose employment, or utilization during the course of this **Contract**, may tend to or in any way cause or result in strikes, work stoppages, delays, suspension of **Work** or similar troubles by workers employed by the **Contractor** or its **Subcontractors**, or by any of the trades working in or about the buildings and premises where **Work** is being performed under this **Contract**, or by **Other Contractors** or their **Subcontractors** pursuant to other contracts, or on any other building or premises owned or operated by the **City**, its **Agencies**, departments, boards or authorities. Any violation by the **Contractor** of this requirement may, upon certification of the **Commissioner**, be considered as proper and sufficient cause for declaring the **Contractor** to be in default, and for the **City** to take action against it as set forth in Chapter X of this **Contract**, or such other article of this **Contract** as the **Commissioner** may deem proper; or

35.1.3 In accordance with Section 220.3-e of the Labor Law of the State of New York (hereinafter "Labor Law"), the **Contractor** and its **Subcontractors** shall not employ on the **Work** any apprentice, unless he/she is a registered individual, under a bona fide program

registered with the New York State Department of Labor. The allowable ratio of apprentices to journey-level workers in any craft classification shall not be greater than the ratio permitted to the **Contractor** as to its work force on any job under the registered program. Any employee listed on a payroll at an apprentice wage rate, who is not registered as above, shall be paid the wage rate determined by the **Comptroller** of the **City** for the classification of **Work** actually performed. The **Contractor** or **Subcontractor** will be required to furnish written evidence of the registration of its program and apprentices as well as all the appropriate ratios and wage rates, for the area of the construction prior to using any apprentices on the **Contract Work**.

35.2 If the total cost of the **Work** under this **Contract** is at least two hundred fifty thousand (\$250,000) dollars, all laborers, workers, and mechanics employed in the performance of the **Contract** on the public work site, either by the **Contractor**, **Subcontractor** or other person doing or contracting to do the whole or a part of the **Work** contemplated by the **Contract**, shall be certified prior to performing any **Work** as having successfully completed a course in construction safety and health approved by the United States Department of Labor's Occupational Safety and Health Administration that is at least ten (10) hours in duration.

35.3 In accordance with Local Law Nos. 30-2012 and 33-2012, codified at sections 6-132 and 12-113 of the Administrative Code, respectively,

35.3.1 The **Contractor** shall not take an adverse personnel action with respect to an officer or employee in retaliation for such officer or employee making a report of information concerning conduct which such officer or employee knows or reasonably believes to involve corruption, criminal activity, conflict of interest, gross mismanagement or abuse of authority by any officer or employee relating to this **Contract** to (a) the Commissioner of the Department of Investigation, (b) a member of the New York City Council, the Public Advocate, or the **Comptroller**, or (c) the **CCPO**, **ACCO**, **Agency** head, or **Commissioner**.

35.3.2 If any of the **Contractor's** officers or employees believes that he or she has been the subject of an adverse personnel action in violation of Article 35.3.1, he or she shall be entitled to bring a cause of action against the **Contractor** to recover all relief necessary to make him or her whole. Such relief may include but is not limited to: (a) an injunction to restrain continued retaliation, (b) reinstatement to the position such employee would have had but for the retaliation or to an equivalent position, (c) reinstatement of full fringe benefits and seniority rights, (d) payment of two times back pay, plus interest, and (e) compensation for any special damages sustained as a result of the retaliation, including litigation costs and reasonable attorney's fees.

35.3.3 The **Contractor** shall post a notice provided by the **City** in a prominent and accessible place on any site where work pursuant to the **Contract** is performed that contains information about:

35.3.3(a) how its employees can report to the New York City Department of Investigation allegations of fraud, false claims, criminality or corruption arising out of or in connection with the **Contract**; and

35.3.3(b) the rights and remedies afforded to its employees under Administrative Code sections 7-805 (the New York City False Claims Act) and 12-113 (the Whistleblower Protection Expansion Act) for lawful acts taken in connection with the reporting of allegations of fraud, false claims, criminality or corruption in connection with the **Contract**.

35.3.4 For the purposes of this Article 35.3, "adverse personnel action" includes dismissal, demotion, suspension, disciplinary action, negative performance evaluation, any action resulting in loss of staff, office space, equipment or other benefit, failure to appoint, failure to promote, or any transfer or assignment or failure to transfer or assign against the wishes of the affected officer or employee.

35.3.5 This Article 35.3 is applicable to all of the **Contractor's Subcontractors** having subcontracts with a value in excess of \$100,000; accordingly, the **Contractor** shall include this rider in all subcontracts with a value a value in excess of \$100,000.

35.4 Article 35.3 is not applicable to this **Contract** if it is valued at \$100,000 or less. Articles 35.3.1, 35.3.2, 35.3.4, and 35.3.5 are not applicable to this **Contract** if it was solicited pursuant to a finding of an emergency.

ARTICLE 36. NO DISCRIMINATION

36.1 The **Contractor** specifically agrees, as required by Labor Law Section 220-e, as amended, that:

36.1.1 In the hiring of employees for the performance of **Work** under this **Contract** or any subcontract hereunder, neither the **Contractor**, **Subcontractor**, nor any person acting on behalf of such **Contractor** or **Subcontractor**, shall by reason of race, creed, color or national origin discriminate against any citizen of the State of New York who is qualified and available to perform the **Work** to which the employment relates;

36.1.2 Neither the **Contractor**, **Subcontractor**, nor any person on its behalf shall, in any manner, discriminate against or intimidate any employee hired for the performance of **Work** under this **Contract** on account of race, creed, color or national origin;

36.1.3 There may be deducted from the amount payable to the **Contractor** by the **City** under this **Contract** a penalty of fifty (\$50.00) dollars for each person for each **Day** during which such person was discriminated against or intimidated in violation of the provisions of this **Contract**; and

36.1.4 This **Contract** may be cancelled or terminated by the **City** and all moneys due or to become due hereunder may be forfeited, for a second or any subsequent violation of the terms or conditions of this Article 36.

36.1.5 This Article 36 covers all construction, alteration and repair of any public building or public work occurring in the State of New York and the manufacture, sale, and distribution of materials, equipment, and supplies to the extent that such operations are performed within the State of New York pursuant to this **Contract**.

36.2 The **Contractor** specifically agrees, as required by Section 6-108 of the Administrative Code, as amended, that:

36.2.1 It shall be unlawful for any person engaged in the construction, alteration or repair of buildings or engaged in the construction or repair of streets or highways pursuant to a **Contract** with the **City** or engaged in the manufacture, sale or distribution of materials, equipment or supplies pursuant to a **Contract** with the **City** to refuse to employ or to refuse to continue in any employment any person on account of the race, color or creed of such person.

36.2.2 It shall be unlawful for any person or any servant, agent or employee of any person, described in Article 36.1.2, to ask, indicate or transmit, orally or in writing, directly or indirectly, the race, color or creed or religious affiliation of any person employed or seeking employment from such person, firm or corporation.

36.2.3 Breach of the foregoing provisions shall be deemed a violation of a material provision of this **Contract**.

36.2.4 Any person, or the employee, manager or owner of or officer of such firm or corporation who shall violate any of the provisions of this Article 36.2 shall, upon conviction thereof, be punished by a fine of not more than one hundred (\$100.00) dollars or by imprisonment for not more than thirty (30) **Days**, or both.

36.3 This **Contract** is subject to the requirements of Executive Order No. 50 (1980) ("E.O. 50"), as revised, and the rules and regulations promulgated thereunder. No contract will be awarded unless and until these requirements have been complied with in their entirety. By signing this **Contract**, the **Contractor** agrees that it:

36.3.1 Will not engage in any unlawful discrimination against any employee or applicant for employment because of race, creed, color, national origin, sex, age, disability, marital status or sexual orientation with respect to all employment decisions including, but not limited to, recruitment, hiring, upgrading, demotion, downgrading, transfer, training, rates of pay or other forms of compensation, layoff, termination, and all other terms and conditions of employment; and

36.3.2 Will not engage in any unlawful discrimination in the selection of **Subcontractors** on the basis of the owner's race, color, creed, national origin, sex, age, disability, marital status or sexual orientation; and

36.3.3 Will state in all solicitations or advertisements for employees placed by or on behalf of the **Contractor** that all qualified applicants will receive consideration for employment without unlawful discrimination based on race, creed, color, national origin, sex, age, citizens status, disability, marital status, sexual orientation, or that it is an equal employment opportunity employer; and

36.3.4 Will send to each labor organization or representative of workers with which it has a collective bargaining agreement or other contract or memorandum of understanding, written notification of its equal employment opportunity commitments under E.O. 50 and the rules and regulations promulgated thereunder; and

36.3.5 Will furnish, before the award of the **Contract**, all information and reports, including an employment report, that are required by E.O. 50, the rules and regulations promulgated thereunder, and orders of the City Department of Business Services, Division of Labor Services (**DLS**) and will permit access to its books, records, and accounts by the **DLS** for the purposes of investigation to ascertain compliance with such rules, regulations, and orders.

36.4 The **Contractor** understands that in the event of its noncompliance with the nondiscrimination clauses of this **Contract** or with any of such rules, regulations, or orders, such noncompliance shall constitute a material breach of this **Contract** and noncompliance with E.O. 50 and the rules and regulations promulgated thereunder. After a hearing held pursuant to the rules of the **DLS**, the Director of the **DLS** may direct the **Commissioner** to impose any or all of the following sanctions:

36.4.1 Disapproval of the **Contractor**; and/or

36.4.2 Suspension or termination of the **Contract**; and/or

36.4.3 Declaring the **Contractor** in default; and/or

36.4.4 In lieu of any of the foregoing sanctions, the Director of the **DLS** may impose an employment program.

In addition to any actions taken under this **Contract**, failure to comply with E.O. 50 and the rules and regulations promulgated thereunder, in one or more instances, may result in a **City Agency** declaring the **Contractor** to be non-responsible in future procurements. The **Contractor** further agrees that it will refrain from entering into any **Contract** or **Contract** modification subject to E.O. 50 and the rules and regulations promulgated thereunder with a **Subcontractor** who is not in compliance with the requirements of E.O. 50 and the rules and regulations promulgated thereunder.

36.5 The **Contractor** specifically agrees, as required by Section 6-123 of the Administrative Code, that:

36.5.1 The **Contractor** will not engage in any unlawful discriminatory practice in violation of Title 8 of the Administrative Code; and

36.5.2 Any failure to comply with this Article 36.5 may subject the **Contractor** to the remedies set forth in Section 6-123 of the Administrative Code, including, where appropriate, sanctions such as withholding of payment, imposition of an employment program, finding the **Contractor** to be in default, cancellation of the **Contract**, or any other sanction or remedy provided by **Law** or **Contract**.

ARTICLE 37. LABOR LAW REQUIREMENTS

37.1 The **Contractor** shall strictly comply with all applicable provisions of the Labor Law, as amended. Such compliance is a material term of this **Contract**.

37.2 The **Contractor** specifically agrees, as required by Labor Law Sections 220 and 220-d, as amended, that:

37.2.1 Hours of **Work**: No laborer, worker, or mechanic in the employ of the **Contractor**, **Subcontractor** or other person doing or contracting to do the whole or a part of the **Work** contemplated by this **Contract** shall be permitted or required to work more than eight (8) hours in any one (1) **Day**, or more than five (5) **Days** in any one (1) week, except as provided in the Labor Law and in cases of extraordinary emergency including fire, flood, or danger to life or property, or in the case of national emergency when so proclaimed by the President of the United States of America.

37.2.2 In situations in which there are not sufficient laborers, workers, and mechanics who may be employed to carry on expeditiously the **Work** contemplated by this **Contract** as a result of such restrictions upon the number of hours and **Days** of labor, and the immediate commencement or prosecution or completion without undue delay of the **Work** is necessary for the preservation of the **Site** and/or for the protection of the life and limb of the persons using the same, such laborers, workers, and mechanics shall be permitted or required to

work more than eight (8) hours in any one (1) **Day**; or five (5) **Days** in any one (1) week; provided, however, that upon application of any **Contractor**, the **Commissioner** shall have first certified to the Commissioner of Labor of the State of New York (hereinafter "**Commissioner of Labor**") that such public **Work** is of an important nature and that a delay in carrying it to completion would result in serious disadvantage to the public; and provided, further, that such **Commissioner of Labor** shall have determined that such an emergency does in fact exist as provided in Labor Law Section 220.2.

37.2.3 Failure of the **Commissioner** to make such a certification to the **Commissioner of Labor** shall not entitle the **Contractor** to damages for delay or for any cause whatsoever.

37.2.4 Prevailing Rate of Wages: The wages to be paid for a legal day's **Work** to laborers, workers, or mechanics employed upon the **Work** contemplated by this **Contract** or upon any materials to be used thereon shall not be less than the "prevailing rate of wage" as defined in Labor Law Section 220, and as fixed by the **Comptroller** in the attached Schedule of Wage Rates and in updated schedules thereof. The prevailing wage rates and supplemental benefits to be paid are those in effect at the time the **Work** is being performed.

37.2.5 Requests for interpretation or correction in the Information for Bidders includes all requests for clarification of the classification of trades to be employed in the performance of the **Work** under this **Contract**. In the event that a trade not listed in the **Contract** is in fact employed during the performance of this **Contract**, the **Contractor** shall be required to obtain from the **Agency** the prevailing wage rates and supplementary benefits for the trades used and to complete the performance of this **Contract** at the price at which the **Contract** was awarded.

37.2.6 Minimum Wages: Except for employees whose wage is required to be fixed pursuant to Labor Law Section 220, all persons employed by the **Contractor** and any **Subcontractor** in the manufacture or furnishing of the supplies, materials, or equipment, or the furnishing of work, labor, or services, used in the performance of this **Contract**, shall be paid, without subsequent deduction or rebate unless expressly authorized by **Law**, not less than the sum mandated by **Law**.

37.3 Working Conditions: No part of the **Work**, labor or services shall be performed or rendered by the **Contractor** in any plants, factories, buildings or surroundings or under working conditions which are unsanitary or hazardous or dangerous to the health and safety of employees engaged in the performance of this **Contract**. Compliance with the safety, sanitary, and factory inspection **Laws** of the state in which the **Work** is to be performed shall be prima facie evidence of compliance with this Article 37.3.

37.4 Prevailing Wage Enforcement: The **Contractor** agrees to pay for all costs incurred by the **City** in enforcing prevailing wage requirements, including the cost of any investigation conducted by or on behalf of the **Agency** or the **Comptroller**, where the **City** discovers a failure to comply with any of the requirements of this Article 37 by the **Contractor** or its **Subcontractor(s)**. The **Contractor** also agrees that, should it fail or refuse to pay for any such investigation, the **Agency** is hereby authorized to deduct from a **Contractor's** account an amount equal to the cost of such investigation.

37.4.1 The Labor Law Section 220 and Section 220-d, as amended, provide that this **Contract** shall be forfeited and no sum paid for any **Work** done hereunder on a second conviction for willfully paying less than:

37.4.1(a) The stipulated prevailing wage scale as provided in Labor Law section 220, as amended, or

37.4.1(b) The stipulated minimum hourly wage scale as provided in Labor Law section 220-d, as amended.

37.4.2 For any breach or violation of either working conditions (Article 37.3) or minimum wages (Article 37.2.6) provisions, the party responsible therefor shall be liable to the **City** for liquidated damages, which may be withheld from any amounts due on any contracts with the **City** of such party responsible, or may be recovered in actions brought by the **City** Corporation Counsel in the name of the **City**, in addition to damages for any other breach of this **Contract**, for a sum equal to the amount of any underpayment of wages due to any employee engaged in the performance of this **Contract**. In addition, the **Commissioner** shall have the right to cancel contracts and enter into other contracts for the completion of the original contract, with or without public letting, and the original **Contractor** shall be liable for any additional cost. All sums withheld or recovered as deductions, rebates, refunds, or underpayment of wages hereunder, shall be held in a special deposit account and shall be paid without interest, on order of the **Comptroller**, directly to the employees who have been paid less than minimum rates of pay as set forth herein and on whose account such sums were withheld or recovered, provided that no claims by employees for such payments shall be entertained unless made within two (2) years from the date of actual notice to the **Contractor** of the withholding or recovery of such sums by the **City**.

37.4.3 A determination by the **Comptroller** that a **Contractor** and/or its **Subcontractor** willfully violated Labor Law Section 220 will be forwarded to the **City's** five District Attorneys for review.

37.4.4 The **Contractor's** or **Subcontractor's** noncompliance with this Article 37.4 and Labor Law Section 220 may result in an unsatisfactory performance evaluation and the **Comptroller** may also find and determine that the **Contractor** or **Subcontractor** willfully violated the New York Labor Law.

37.4.4(a) An unsatisfactory performance evaluation for noncompliance with this Article 37.4 may result in a determination that the **Contractor** is a non-responsible bidder on subsequent procurements with the **City** and thus a rejection of a future award of a contract with the **City**, as well as any other sanctions provided for by Law.

37.4.4(b) Labor Law Section 220-b, as amended, provides that when two (2) final determinations have been rendered against a **Contractor** or **Subcontractor** within any consecutive six (6) year period determining that such **Contractor** or **Subcontractor** has willfully failed to pay the prevailing rate of wages or to provide supplements in accordance with the Labor Law and this Article 37.4, whether such failures were concurrent or consecutive and whether or not such final determinations concerning separate public works projects are rendered simultaneously, such **Contractor** or **Subcontractor** shall be ineligible to submit a bid on or be awarded any public works contract with the **City** for a period of five (5) years from the second final determination. If the final determination involves the falsification of payroll records or the kickback of wages or supplements, the **Contractor** or **Subcontractor** shall be ineligible to submit a bid on or be awarded any public works contract with the **City** for a period of five (5) years from the first final determination.

37.4.4(c) Labor Law Section 220, as amended, provides that the **Contractor** or **Subcontractor** found to have violated this Article 37.4 may be directed to make payment of wages or supplements including interest found to be due, and the **Contractor** or **Subcontractor** may be directed to make payment of a further sum as

a civil penalty in an amount not exceeding twenty-five (25%) percent of the total amount found to be due.

37.5 The **Contractor** and its **Subcontractors** shall within ten (10) **Days** after mailing of a Notice of Award or written order, post in prominent and conspicuous places in each and every plant, factory, building, and structure where employees of the **Contractor** and its **Subcontractors** engaged in the performance of this **Contract** are employed, notices furnished by the **City**, in relation to prevailing wages and supplements, minimum wages, and other stipulations contained in Sections 220 and 220-h of the Labor Law, and the **Contractor** and its **Subcontractors** shall continue to keep such notices posted in such prominent and conspicuous places until **Final Acceptance** of the supplies, materials, equipment, or **Work**, labor, or services required to be furnished or rendered under this **Contract**.

37.6 The **Contractor** shall strictly comply with all of the provisions of Articles 37.6.1 through 37.6.5, and provide for all workers, laborers or mechanics in its employ, the following:

37.6.1 **Notices Posted At Site:** Post, in a location designated by the **City**, schedules of prevailing wages and supplements for this **Project**, a copy of all re-determinations of such schedules for the **Project**, the **Workers' Compensation Law** Section 51 notice, all other notices required by **Law** to be posted at the **Site**, the **City** notice that this **Project** is a public works project on which each worker is entitled to receive the prevailing wages and supplements for the occupation at which he or she is working, and all other notices which the **City** directs the **Contractor** to post. The **Contractor** shall provide a surface for such notices which is satisfactory to the **City**. The **Contractor** shall maintain and keep current such notices in a legible manner and shall replace any notice or schedule which is damaged, defaced, illegible or removed for any reason. The **Contractor** shall post such notices before commencing any **Work** on the **Site** and shall maintain such notices until all **Work** on the **Site** is complete; and

37.6.2 **Daily Site Sign-in Sheets:** Maintain daily **Site** sign-in sheets, and require that **Subcontractors** maintain daily **Site** sign-in sheets for its employees, which include blank spaces for an employee's name to be both printed and signed, job title, date started and Social Security number, the time the employee began work and the time the employee left work, until **Final Acceptance** of the supplies, materials, equipment, or **Work**, labor, or services to be furnished or rendered under this **Contract** unless exception is granted by the **Comptroller** upon application by the **Agency**. In the alternative, subject to the approval of the **CCPO**, the **Contractor** and **Subcontractor** may maintain an electronic or biometric sign-in system, which provides the information required by this Article 37.6.2; and

37.6.3 **Individual Employee Information Notices:** Distribute a notice to each worker, laborer or mechanic employed under this **Contract**, in a form provided by the **Agency**, that this **Project** is a public works project on which each worker, laborer or mechanic is entitled to receive the prevailing rate of wages and supplements for the occupation at which he or she is working. If the total cost of the **Work** under this **Contract** is at least two hundred fifty thousand (\$250,000) dollars, such notice shall also include a statement that each worker, laborer or mechanic must be certified prior to performing any **Work** as having successfully completed a course in construction safety and health approved by the United States Department of Labor's Occupational Safety and Health Administration that is at least ten (10) hours in duration. Such notice shall be distributed to each worker before he or she starts performing any **Work** of this **Contract** and with the first paycheck after July first of each year. "Worker, laborer or mechanic" includes employees of the **Contractor** and all **Subcontractors** and all employees of suppliers entering the **Site**. At the time of distribution, the **Contractor** shall have each worker, laborer or mechanic sign a statement, in a form provided by the **Agency**, certifying that the worker has received the notice required by this

Article 37.6.3, which signed statement shall be maintained with the payroll records required by this **Contract**; and

37.6.3(a) The **Contractor** and each **Subcontractor** shall notify each worker, laborer or mechanic employed under this **Contract** in writing of the prevailing rate of wages for their particular job classification. Such notification shall be given to every worker, laborer, and mechanic on their first pay stub and with every pay stub thereafter; and

37.6.4 **Site Laminated Identification Badges:** The **Contractor** shall provide laminated identification badges which include a photograph of the worker's, laborer's or mechanic's face and indicate the worker's, laborer's or mechanic's name, trade, employer's name, and employment starting date (month/day/year). Further, the **Contractor** shall require as a condition of employment on the **Site**, that each and every worker, laborer or mechanic wear the laminated identification badge at all times and that it may be seen by any representative of the **City**. The **Commissioner** may grant a written waiver from the requirement that the laminated identification badge include a photograph if the **Contractor** demonstrates that the identity of an individual wearing a laminated identification badge can be easily verified by another method; and

37.6.5 **Language Other Than English Used On Site:** Provide the **ACCO** notice when three (3) or more employees (worker and/or laborer and/or mechanic) on the **Site**, at any time, speak a language other than English. The **ACCO** will then provide the **Contractor** the notices described in Article 37.6.1 in that language or languages as may be required. The **Contractor** is responsible for all distributions under this Article 37; and

37.6.6 **Provision of Records:** The **Contractor** and **Subcontractor(s)** shall produce within five (5) **Days** on the **Site** of the **Work** and upon a written order of the **Engineer**, the **Commissioner**, the **ACCO**, the **Agency EAO**, or the **Comptroller**, such records as are required to be kept by this Article 37.6; and

37.6.7 The **Contractor** and **Subcontractor(s)** shall pay employees by check or direct deposit. If this **Contract** is for an amount greater than one million (\$1,000,000) dollars, checks issued by the **Contractor** to covered employees shall be generated by a payroll service or automated payroll system (an in-house system may be used if approved by the **Agency**). For any subcontract for an amount greater than seven hundred fifty thousand (\$750,000) dollars, checks issued by a **Subcontractor** to covered employees shall be generated by a payroll service or automated payroll system (an in-house system may be used if approved by the **Agency**); and

37.6.8 The failure of the **Contractor** or **Subcontractor(s)** to comply with the provisions of Articles 37.6.1 through 37.6.7 may result in the **Commissioner** declaring the **Contractor** in default and/or the withholding of payments otherwise due under the **Contract**.

37.7 The **Contractor** and its **Subcontractors** shall keep such employment and payroll records as are required by Section 220 of the Labor Law. The failure of the **Contractor** or **Subcontractor(s)** to comply with the provisions of this Article 37.7 may result in the **Commissioner** declaring the **Contractor** in default and/or the withholding of payments otherwise due under the **Contract**.

37.8 At the time the **Contractor** makes application for each partial payment and for final payment, the **Contractor** shall submit to the **Commissioner** a written payroll certification, in the form provided by this **Contract**, of compliance with the prevailing wage, minimum wage, and other provisions and stipulations required by Labor Law Section 220 and of compliance with the training requirements of

Labor Law Section 220-h set forth in Article 35.2. This certification of compliance shall be a condition precedent to payment and no payment shall be made to the **Contractor** unless and until each such certification shall have been submitted to and received by the **Commissioner**.

37.9 This **Contract** is executed by the **Contractor** with the express warranty and representation that the **Contractor** is not disqualified under the provisions of Section 220 of the Labor Law from the award of the **Contract**.

37.10 Any breach or violation of any of the foregoing shall be deemed a breach or violation of a material provision of this **Contract**, and grounds for cancellation thereof by the **City**.

ARTICLE 38. PAYROLL REPORTS

38.1 The **Contractor** and its **Subcontractor(s)** shall maintain on the **Site** during the performance of the **Work** the original payrolls or transcripts thereof which the **Contractor** and its **Subcontractor(s)** are required to maintain and shall submit such original payrolls or transcripts, subscribed and affirmed by it as true, within thirty (30) **Days** after issuance of its first payroll, and every thirty (30) **Days** thereafter, pursuant to Labor Law Section 220(3-a)(a)(iii). The **Contractor** and **Subcontractor(s)** shall submit such original payrolls or transcripts along with each and every payment requisition. If payment requisitions are not submitted at least once a month, the **Contractor** and its **Subcontractor(s)** shall submit original payrolls and transcripts both along with its payment requisitions and independently of its payment requisitions.

38.2 The **Contractor** shall maintain payrolls or transcripts thereof for six (6) years from the date of completion of the **Work** on this **Contract**. If such payrolls and transcripts are maintained outside of New York City after the completion of the **Work** and their production is required pursuant to this Article 38, the **Contractor** shall produce such records in New York City upon request by the **City**.

38.3 The **Contractor** and **Subcontractor(s)** shall comply with any written order, direction, or request made by the **Engineer**, the **Commissioner**, the **ACCO**, the **Agency EAO**, the **Agency Labor Law Investigator(s)**, or the **Comptroller**, to provide to the requesting party any of the following information and/or records within five (5) **Days** of such written order, direction, or request:

38.3.1 Such original payrolls or transcripts thereof subscribed and affirmed by it as true and the statements signed by each worker pursuant to this Chapter VIII; and/or

38.3.2 Attendance sheets for each **Day** on which any employee of the **Contractor** and/or any of the **Subcontractor(s)** performed **Work** on the **Site**, which attendance sheet shall be in a form acceptable to the **Agency** and shall provide information acceptable to the **Agency** to identify each such employee; and/or

38.3.3 Any other information to satisfy the **Engineer**, the **Commissioner**, the **ACCO**, the **Agency EAO**, the **Agency Labor Law Investigator(s)** or the **Comptroller**, that this Chapter VIII and the Labor Law, as to the hours of employment and prevailing rates of wages and/or supplemental benefits, are being observed.

38.4 The failure of the **Contractor** or **Subcontractor(s)** to comply with the provisions of Articles 38.1 and/or 38.2 may result in the **Commissioner** declaring the **Contractor** in default and/or the withholding of payments otherwise due under the **Contract**.

ARTICLE 39. DUST HAZARDS

39.1 Should a harmful dust hazard be created in performing the **Work** of this **Contract**, for the elimination of which appliances or methods have been approved by the Board of Standards and Appeals of the City of New York, such appliances and methods shall be installed, maintained, and effectively operated during the continuance of such harmful dust hazard. Failure to comply with this provision after notice shall make this **Contract** voidable at the sole discretion of the City.

CHAPTER IX PARTIAL AND FINAL PAYMENTS

ARTICLE 40. CONTRACT PRICE

40.1 The City shall pay, and the **Contractor** agrees to accept, in full consideration for the **Contractor's** performance of the **Work** subject to the terms and conditions hereof, the lump sum price or unit prices for which this **Contract** was awarded, plus the amount required to be paid for any **Extra Work** ordered by the **Commissioner** under Article 25, less credit for any **Work** omitted pursuant to Article 29.

ARTICLE 41. BID BREAKDOWN ON LUMP SUM

41.1 Within fifteen (15) **Days** after the commencement date specified in the **Notice to Proceed** or **Order to Work**, unless otherwise directed by the **Resident Engineer**, the **Contractor** shall submit to the **Resident Engineer** a breakdown of its bid price, or of lump sums bid for items of the **Contract**, showing the various operations to be performed under the **Contract**, as directed in the progress schedule required under Article 9, and the value of each of such operations, the total of such items to equal the lump sum price bid. Said breakdown must be approved in writing by the **Resident Engineer**.

41.2 No partial payment will be approved until the **Contractor** submits a bid breakdown that is acceptable to the **Resident Engineer**.

41.3 The **Contractor** shall also submit such other information relating to the bid breakdown as directed by the **Resident Engineer**. Thereafter, the breakdown may be used only for checking the **Contractor's** applications for partial payments hereunder, but shall not be binding upon the City, the **Commissioner**, or the **Engineer** for any purpose whatsoever.

ARTICLE 42. PARTIAL PAYMENTS

42.1 From time to time as the **Work** progresses satisfactorily, but not more often than once each calendar month (except where the **Commissioner** approves in writing the submission of invoices on a more frequent basis and for invoices relating to **Work** performed pursuant to a change order), the **Contractor** may submit to the **Engineer** a requisition for a partial payment in the prescribed form, which shall contain an estimate of the quantity and the fair value of the **Work** done during the payment period.

42.2 Partial payments may be made for materials, fixtures, and equipment in advance of their actual incorporation in the **Work**, as the **Commissioner** may approve, and upon the terms and conditions set forth in the General Conditions.

42.3 The **Contractor** shall also submit to the **Commissioner** in connection with every application for partial payment a verified statement in the form prescribed by the **Comptroller** setting forth the information required under Labor Law Section 220-a.

42.4 Within thirty (30) **Days** after receipt of a satisfactory payment application, and within sixty (60) **Days** after receipt of a satisfactory payment application in relation to **Work** performed pursuant to a change order, the **Engineer** will prepare and certify, and the **Commissioner** will approve, a voucher for a partial payment in the amount of such approved estimate, less any and all deductions authorized to be made by the **Commissioner** under the terms of this **Contract** or by **Law**.

ARTICLE 43. PROMPT PAYMENT

43.1 The Prompt Payment provisions of the **PPB** Rules in effect at the time of the bid will be applicable to payments made under this **Contract**. The provisions require the payment to the **Contractor** of interest on payments made after the required payment date, except as set forth in the **PPB** Rules.

43.2 The **Contractor** shall submit a proper invoice to receive payment, except where the **Contract** provides that the **Contractor** will be paid at predetermined intervals without having to submit an invoice for each scheduled payment.

43.3 Determination of interest due will be made in accordance with the **PPB** Rules.

43.4 If the **Contractor** is paid interest, the proportionate share(s) of that interest shall be forwarded by the **Contractor** to its **Subcontractor(s)**.

43.5 The **Contractor** shall pay each **Subcontractor** or **Materialman** not later than seven (7) **Days** after receipt of payment out of amounts paid to the **Contractor** by the **City** for **Work** performed by the **Subcontractor** or **Materialman** under this **Contract**.

43.5.1 If **Contractor** fails to make any payment to any **Subcontractor** or **Materialman** within seven (7) **Days** after receipt of payment by the **City** pursuant to this Article 43.5, then the **Contractor** shall pay interest on amounts due to such **Subcontractor** or **Materialman** at the rate of interest in effect on the date such payment is made by the **Contractor** computed in accordance with Section 756-b (1)(b) of the New York General Business Law. Accrual of interest shall commence on the **Day** immediately following the expiration of the seventh **Day** following receipt of payment by the **Contractor** from the **City** and shall end on the date on which payment is made.

43.6 The **Contractor** shall include in each of its subcontracts a provision requiring each **Subcontractor** to make payment to each of its **Subcontractors** or **Materialmen** for **Work** performed under this **Contract** in the same manner and within the same time period set forth above.

ARTICLE 44. SUBSTANTIAL COMPLETION PAYMENT

44.1 The **Contractor** shall submit with the **Substantial Completion** requisition:

44.1.1 A final verified statement of any pending Article 27 disputes in accordance with the **PPB** Rules and this **Contract** and any and all alleged claims against the **City**, in any way connected with or arising out of this **Contract** (including those as to which details may have been furnished pursuant to Articles 11, 27, 28, and 30) setting forth with respect to each

such claim the total amount thereof, the various items of labor and materials included therein, and the alleged value of each item; and if the alleged claim be one for delay, the alleged cause of each such delay, the period or periods of time, giving the dates when the **Contractor** claims the performance of the **Work** or a particular part thereof was delayed, and an itemized statement and breakdown of the amount claimed for each such delay.

44.1.1(a) With respect to each such claim, the **Commissioner**, the **Comptroller** and, in the event of litigation, the **City Corporation Counsel** shall have the same right to inspect, and to make extracts or copies of, the **Contractor's** books, vouchers, records, etc., as is referred to in Articles 11, 27, 28, and 30. Nothing contained in this Article 44.1.1(a) is intended to or shall relieve the **Contractor** from the obligation of complying strictly with Articles 11, 27, 28, and 30. The **Contractor** is warned that unless such claims are completely set forth as herein required, the **Contractor** upon acceptance of the **Substantial Completion** payment pursuant to this Article 44, will have waived any such claims.

44.1.2 A Final Approved Punch List.

44.1.3 Where required, a request for an extension of time to achieve **Substantial Completion** or final extension of time.

44.2 The **Commissioner** shall issue a voucher calling for payment of any part or all of the balance due for **Work** performed under the **Contract**, including monies retained under Article 21, less any and all deductions authorized to be made by the **Commissioner**, under this **Contract** or by **Law**, and less twice the amount the **Commissioner** considers necessary to ensure the completion of the balance of the **Work** by the **Contractor**. Such a payment shall be considered a partial and not a final payment. No **Substantial Completion** payment shall be made under this Article 44 where the **Contractor** failed to complete the **Work** within the time fixed for such completion in the Schedule A of the General Conditions, or within the time to which completion may have been extended, until an extension or extensions of time for the completion of **Work** have been acted upon pursuant to Article 13.

44.3 No further partial payments shall be made to the **Contractor** after **Substantial Completion**, except the **Substantial Completion** payment and payment pursuant to any **Contractor's** requisition that were properly filed with the **Commissioner** prior to the date of **Substantial Completion**; however, the **Commissioner** may grant a waiver for further partial payments after the date of **Substantial Completion** to permit payments for change order **Work** and/or release of retainage and deposits pursuant to Articles 21 and 24. Such waiver shall be in writing.

44.4 The **Contractor** acknowledges that nothing contained in this Article 44 is intended to or shall in any way diminish the force and effect of Article 13.

ARTICLE 45. FINAL PAYMENT

45.1 After completion and **Final Acceptance** of the **Work**, the **Contractor** shall submit all required certificates and documents, together with a requisition for the balance claimed to be due under the **Contract**, less the amount authorized to be retained for maintenance under Article 24. Such submission shall be within 90 days of the date of the **Commissioner's** written determination of **Final Acceptance**, or within such additional time as may be granted by the **Commissioner** in writing. If the **Contractor** fails to submit all required certificates and documents within the time allowed, no payment of the balance claimed shall be made to the **Contractor** and the **Contractor** shall be deemed to have forfeited its right to

payment of any balance claimed. A verified statement similar to that required in connection with applications for partial payments shall also be submitted to the **Commissioner**.

45.2 Amended Verified Statement of Claims: The **Contractor** shall also submit with the final requisition any amendments to the final verified statement of any pending dispute resolution procedures in accordance with the **PPB Rules** and this **Contract** and any and all alleged claims against the **City**, in any way connected with or arising out of this **Contract** (including those as to which details may have been furnished pursuant to Articles 11, 27, 28, and 30) that have occurred subsequent to **Substantial Completion**, setting forth with respect to each such claim the total amount thereof, the various items of labor and materials included therein, and the alleged value of each such item; and if the alleged claim be one for delay, the alleged cause of each such delay, the period or periods of time, giving the dates when the **Contractor** claims the performance of the **Work** or a particular part thereof was delayed, and an itemized statement and breakdown of the amount claimed for each such delay. With reference to each such claim, the **Commissioner**, the **Comptroller** and, in the event of litigation, the **City Corporation Counsel** shall have the same right to inspect, and to make extracts or copies of, the **Contractor's** books, vouchers, records, etc., as is referred to in Articles 11, 27, 28, and 30. Nothing contained in this Article 45.2, is intended to or shall relieve the **Contractor** from the obligation of complying strictly with Articles 11, 27, 28, and 30. The **Contractor** is warned that unless such claims are completely set forth as herein required, the **Contractor**, upon acceptance of the Final Payment pursuant to Article 46, will have waived any such claims.

45.3 Preparation of Final Voucher: Upon determining the balance due hereunder other than on account of claims, the **Engineer** will prepare and certify, for the **Commissioner's** approval, a voucher for final payment in that amount less any and all deductions authorized to be made by the **Commissioner** under this **Contract** or by **Law**. In the case of a lump sum **Contract**, the **Commissioner** shall certify the voucher for final payment within thirty (30) **Days** from the date of completion and acceptance of the **Work**, provided all requests for extensions of time have been acted upon.

45.3.1 All prior certificates and vouchers upon which partial payments were made, being merely estimates made to enable the **Contractor** to prosecute the **Work** more advantageously, shall be subject to correction in the final voucher, and the certification of the **Engineer** thereon and the approval of the **Commissioner** thereof, shall be conditions precedent to the right of the **Contractor** to receive any money hereunder. Such final voucher shall be binding and conclusive upon the **Contractor**.

45.3.2 Payment pursuant to such final voucher, less any deductions authorized to be made by the **Commissioner** under this **Contract** or by **Law**, shall constitute the final payment, and shall be made by the **Comptroller** within thirty (30) **Days** after the filing of such voucher in his/her office.

45.4 The **Contractor** acknowledges that nothing contained in this Article 45 is intended to or shall in any way diminish the force and effect of Article 13.

ARTICLE 46. ACCEPTANCE OF FINAL PAYMENT

46.1 The acceptance by the **Contractor**, or by anyone claiming by or through it, of the final payment, whether such payment be made pursuant to any judgment of any court, or otherwise, shall constitute and operate as a release of the **City** from any and all claims of and liability to the **Contractor** for anything heretofore done or furnished for the **Contractor** relating to or arising out of this **Contract** and the **Work** done hereunder, and for any prior act, neglect or default on the part of the **City** or any of its officials, agents or employees, excepting only a claim against the **City** for the amounts deducted or retained in accordance with the terms and provisions of this **Contract** or by **Law**, and excepting any

claims, not otherwise waived, or any pending dispute resolution procedures which are contained in the verified statement filed with the **Contractor's** substantial and final requisitions pursuant to Articles 44 and 45.

46.2 The **Contractor** is warned that the execution by it of a release, in connection with the acceptance of the final payment, containing language purporting to reserve claims other than those herein specifically excepted from the operation of this Article 46, or those for amounts deducted by the **Commissioner** from the final requisition or from the final payment as certified by the **Engineer** and approved by the **Commissioner**, shall not be effective to reserve such claims, anything stated to the **Contractor** orally or in writing by any official, agent or employee of the **City** to the contrary notwithstanding.

46.3 Should the **Contractor** refuse to accept the final payment as tendered by the **Comptroller**, it shall constitute a waiver of any right to interest thereon.

46.4 The **Contractor**, however, shall not be barred by this Article 46 from commencing an action for breach of **Contract** to the extent permitted by **Law** and by the terms of the **Contract** for any claims that are contained in the verified statement filed with the **Contractor's** substantial and final requisitions pursuant to Articles 44 and 45 or that arose after submission of the final payment requisition, provided that a detailed and verified statement of claim is served upon the contracting **Agency** and **Comptroller** not later than forty (40) **Days** after the making of such final payment by electronic funds transfer (EFT) or the mailing of such final payment. The statement shall specify the items upon which the claim will be based and any such claim shall be limited to such items.

ARTICLE 47. APPROVAL BY PUBLIC DESIGN COMMISSION

47.1 All works of art, including paintings, mural decorations, stained glass, statues, bas-reliefs, and other sculptures, monuments, fountains, arches, and other structures of a permanent character intended for ornament or commemoration, and every design of the same to be used in the performance of this **Contract**, and the design of all bridges, approaches, buildings, gates, fences, lamps, or structures to be erected, pursuant to the terms of this **Contract**, shall be submitted to the Art Commission, d/b/a the Public Design Commission of the City of New York, and shall be approved by the Public Design Commission prior to the erection or placing in position of the same. The final payment shall not become due or payable under this **Contract** unless and until the Public Design Commission shall certify that the design for the **Work** herein contracted for has been approved by the said Public Design Commission, and that the same has been executed in substantial accordance with the design so approved, pursuant to the provisions of Chapter 37, Section 854 of the City Charter, as amended.

CHAPTER X CONTRACTOR'S DEFAULT

ARTICLE 48. COMMISSIONER'S RIGHT TO DECLARE CONTRACTOR IN DEFAULT

48.1 In addition to those instances specifically referred to in other Articles herein, the **Commissioner** shall have the right to declare the **Contractor** in default of this **Contract** if:

48.1.1 The **Contractor** fails to commence **Work** when notified to do so by the **Commissioner**; or
if

48.1.2 The **Contractor** shall abandon the **Work**; or if

48.1.3 The **Contractor** shall refuse to proceed with the **Work** when and as directed by the **Commissioner**; or if

48.1.4 The **Contractor** shall, without just cause, reduce its working force to a number which, if maintained, would be insufficient, in the opinion of the **Commissioner**, to complete the **Work** in accordance with the progress schedule; or if

48.1.5 The **Contractor** shall fail or refuse to increase sufficiently such working force when ordered to do so by the **Commissioner**; or if

48.1.6 The **Contractor** shall sublet, assign, transfer, convert or otherwise dispose of this **Contract** other than as herein specified; or sell or assign a majority interest in the **Contractor**; or if

48.1.7 The **Contractor** fails to secure and maintain all required insurance; or if

48.1.8 A receiver or receivers are appointed to take charge of the **Contractor's** property or affairs; or if

48.1.9 The **Commissioner** shall be of the opinion that the **Contractor** is or has been unnecessarily or unreasonably or willfully delaying the performance and completion of the **Work**, or the award of necessary subcontracts, or the placing of necessary material and equipment orders; or if

48.1.10 The **Commissioner** shall be of the opinion that the **Contractor** is or has been willfully or in bad faith violating any of the provisions of this **Contract**; or if

48.1.11 The **Commissioner** shall be of the opinion that the **Work** cannot be completed within the time herein provided therefor or within the time to which such completion may have been extended; provided, however, that the impossibility of timely completion is, in the **Commissioner's** opinion, attributable to conditions within the **Contractor's** control; or if

48.1.12 The **Work** is not completed within the time herein provided therefor or within the time to which the **Contractor** may be entitled to have such completion extended; or if

48.1.13 Any statement or representation of the **Contractor** in the **Contract** or in any document submitted by the **Contractor** with respect to the **Work**, the **Project**, or the **Contract** (or for purposes of securing the **Contract**) was untrue or incorrect when made; or if

48.1.14 The **Contractor** or any of its officers, directors, partners, five (5%) percent shareholders, principals, or other persons substantially involved in its activities, commits any of the acts or omissions specified as the grounds for debarment in the **PPB Rules**.

48.2 Before the **Commissioner** shall exercise his/her right to declare the **Contractor** in default, the **Commissioner** shall give the **Contractor** an opportunity to be heard, upon not less than two (2) **Days** notice.

ARTICLE 49. EXERCISE OF THE RIGHT TO DECLARE DEFAULT

49.1 The right to declare the **Contractor** in default for any of the grounds specified or referred to in Article 48 shall be exercised by sending the **Contractor** a notice, signed by the **Commissioner**, setting forth the ground or grounds upon which such default is declared (hereinafter referred to as a "Notice of Default").

49.2 The **Commissioner's** determination that the **Contractor** is in default shall be conclusive, final, and binding on the parties and such a finding shall preclude the **Contractor** from commencing a plenary action for any damages relating to the **Contract**. If the **Contractor** protests the determination of the **Commissioner**, the **Contractor** may commence an action in a court of competent jurisdiction of the State of New York under Article 78 of the New York Civil Practice Law and Rules.

ARTICLE 50. QUITTING THE SITE

50.1 Upon receipt of such notice the **Contractor** shall immediately discontinue all further operations under this **Contract** and shall immediately quit the **Site**, leaving untouched all plant, materials, equipment, tools, and supplies then on the **Site**.

ARTICLE 51. COMPLETION OF THE WORK

51.1 The **Commissioner**, after declaring the **Contractor** in default, may then have the **Work** completed by such means and in such manner, by contract with or without public letting, or otherwise, as he/she may deem advisable, utilizing for such purpose such of the **Contractor's** plant, materials, equipment, tools, and supplies remaining on the **Site**, and also such **Subcontractors**, as he/she may deem advisable.

51.2 After such completion, the **Commissioner** shall make a certificate stating the expense incurred in such completion, which shall include the cost of re-letting and also the total amount of liquidated damages (at the rate provided for in the **Contract**) from the date when the **Work** should have been completed by the **Contractor** in accordance with the terms hereof to the date of actual completion of the **Work**. Such certificate shall be binding and conclusive upon the **Contractor**, its sureties, and any person claiming under the **Contractor**, as to the amount thereof.

51.3 The expense of such completion, including any and all related and incidental costs, as so certified by the **Commissioner**, and any liquidated damages assessed against the **Contractor**, shall be charged against and deducted out of monies which are earned by the **Contractor** prior to the date of default. Should the expense of such completion, as certified by the **Commissioner**, exceed the total sum which would have been payable under the **Contract** if it had been completed by the **Contractor**, any excess shall be paid by the **Contractor**.

ARTICLE 52. PARTIAL DEFAULT

52.1 In case the **Commissioner** shall declare the **Contractor** in default as to a part of the **Work** only, the **Contractor** shall discontinue such part, shall continue performing the remainder of the **Work** in strict conformity with the terms of this **Contract**, and shall in no way hinder or interfere with any **Other**

Contractor(s) or persons whom the **Commissioner** may engage to complete the **Work** as to which the **Contractor** was declared in default.

52.2 The provisions of this Chapter relating to declaring the **Contractor** in default as to the entire **Work** shall be equally applicable to a declaration of partial default, except that the **Commissioner** shall be entitled to utilize for completion of the part of the **Work** as to which the **Contractor** was declared in default only such plant, materials, equipment, tools, and supplies as had been previously used by the **Contractor** on such part.

ARTICLE 53. PERFORMANCE OF UNCOMPLETED WORK

53.1 In completing the whole or any part of the **Work** under the provisions of this Chapter X, the **Commissioner** shall have the power to depart from or change or vary the terms and provisions of this **Contract**, provided, however, that such departure, change or variation is made for the purpose of reducing the time or expense of such completion. Such departure, change or variation, even to the extent of accepting a lesser or different performance, shall not affect the conclusiveness of the **Commissioner's** certificate of the cost of completion referred to in Article 51, nor shall it constitute a defense to an action to recover the amount by which such certificate exceeds the amount which would have been payable to the **Contractor** hereunder but for its default.

ARTICLE 54. OTHER REMEDIES

54.1 In addition to the right to declare the **Contractor** in default pursuant to this Chapter X, the **Commissioner** shall have the absolute right, in his/her sole discretion and without a hearing, to complete or cause to be completed in the same manner as described in Articles 51 and 53, any or all unsatisfactory or uncompleted punch list **Work** that remains after the completion date specified in the **Final Approved Punch List**. A written notice of the exercise of this right shall be sent to the **Contractor** who shall immediately quit the **Site** in accordance with the provisions of Article 50.

54.2 The expense of completion permitted under Article 54.1, including any and all related and incidental costs, as so certified by the **Commissioner**, shall be charged against and deducted out of monies which have been earned by the **Contractor** prior to the date of the exercise of the right set forth in Article 54.1; the balance of such monies, if any, subject to the other provisions of this **Contract**, to be paid to the **Contractor** without interest after such completion. Should the expense of such completion, as certified by the **Commissioner**, exceed the total sum which would have been payable under the **Contract** if it had been completed by the **Contractor**, any excess shall be paid by the **Contractor**.

54.3 The previous provisions of this Chapter X shall be in addition to any and all other remedies available under **Law** or in equity.

54.4 The exercise by the **City** of any remedy set forth herein shall not be deemed a waiver by the **City** of any other legal or equitable remedy contained in this **Contract** or provided under **Law**.

**CHAPTER XI
MISCELLANEOUS PROVISIONS**

ARTICLE 55. CONTRACTOR'S WARRANTIES

55.1 In consideration of, and to induce, the award of this **Contract** to the **Contractor**, the **Contractor** represents and warrants:

55.1.1 That it is financially solvent, sufficiently experienced and competent to perform the **Work**; and

55.1.2 That the facts stated in its bid and the information given by it pursuant to the Information for Bidders is true and correct in all respects; and

55.1.3 That it has read and complied with all requirements set forth in the **Contract**.

ARTICLE 56. CLAIMS AND ACTIONS THEREON

56.1 Any claim, that is not subject to dispute resolution under the **PPB** Rules or this **Contract**, against the **City** for damages for breach of **Contract** shall not be made or asserted in any action, unless the **Contractor** shall have strictly complied with all requirements relating to the giving of notice and of information with respect to such claims, as herein before provided.

56.2 Nor shall any action be instituted or maintained on any such claims unless such action is commenced within six (6) months after **Substantial Completion**; except that:

56.2.1 Any claims arising out of events occurring after **Substantial Completion** and before **Final Acceptance** of the **Work** shall be asserted within six (6) months of **Final Acceptance** of the **Work**;

56.2.2 Any claims for monies deducted, retained or withheld under the provisions of this **Contract** shall be asserted within six (6) months after the date when such monies otherwise become due and payable hereunder; and

56.2.3 If the **Commissioner** exercises his/her right to terminate the **Contract** pursuant to Article 64, any such action shall be commenced within six (6) months of the date the **Commissioner** exercises said right.

ARTICLE 57. INFRINGEMENT

57.1 The **Contractor** shall be solely responsible for and shall defend, indemnify, and hold the **City** harmless from any and all claims (even if the allegations of the lawsuit are without merit) and judgments for damages and from costs and expenses to which the **City** may be subject to or which it may suffer or incur allegedly arising out of or in connection with any infringement by the **Contractor** of any copyright, trade secrets, trademark or patent rights or any other property or personal right of any third party by the **Contractor** and/or its **Subcontractors** in the performance or completion of the **Work**. Insofar as the facts or **Law** relating to any claim would preclude the **City** from being completely indemnified by the **Contractor**, the **City** shall be partially indemnified by the **Contractor** to the fullest extent permitted by **Law**.

ARTICLE 58. NO CLAIM AGAINST OFFICIALS, AGENTS OR EMPLOYEES

58.1 No claim whatsoever shall be made by the **Contractor** against any official, agent or employee of the **City** for, or on account of, anything done or omitted to be done in connection with this **Contract**.

ARTICLE 59. SERVICE OF NOTICES

59.1 The **Contractor** hereby designates the business address, fax number, and email address specified in its bid, as the place where all notices, directions or other communications to the **Contractor** may be delivered, or to which they may be mailed. Any notice, direction, or communication from either party to the other shall be in writing and shall be deemed to have been given when (i) delivered personally; (ii) sent by certified mail, return receipt requested; (iii) delivered by overnight or same day courier service in a properly addressed envelope with confirmation; or (iv) sent by fax or email and, unless receipt of the fax or e-mail is acknowledged by the recipient by fax or e-mail, deposited in a post office box regularly maintained by the United States Postal Service in a properly addressed, postage pre-paid envelope.

59.2 **Contractor's** notice address, email address, or fax number may be changed at any time by an instrument in writing, executed and acknowledged by the **Contractor**, and delivered to the **Commissioner**.

59.3 Nothing herein contained shall, however, be deemed to preclude or render inoperative the service of any notice, direction or other communication upon the **Contractor** personally, or, if the **Contractor** is a corporation, upon any officer thereof.

ARTICLE 60. UNLAWFUL PROVISIONS DEEMED STRICKEN FROM CONTRACT

60.1 If this **Contract** contains any unlawful provision not an essential part of the **Contract** and which shall not appear to have been a controlling or material inducement to the making thereof, the same shall be deemed of no effect and shall, upon notice by either party, be deemed stricken from the **Contract** without affecting the binding force of the remainder.

ARTICLE 61. ALL LEGAL PROVISIONS DEEMED INCLUDED

61.1 It is the intent and understanding of the parties to this **Contract** that each and every provision of **Law** required to be inserted in this **Contract** shall be and is inserted herein. Furthermore, it is hereby stipulated that every such provision is to be deemed to be inserted herein, and if, through mistake or otherwise, any such provision is not inserted, or is not inserted in correct form, then this **Contract** shall forthwith upon the application of either party be amended by such insertion so as to comply strictly with the **Law** and without prejudice to the rights of either party hereunder.

ARTICLE 62. TAX EXEMPTION

62.1 The **City** is exempt from payment of Federal, State, and local taxes, including sales and compensating use taxes of the State of New York and its cities and counties on all tangible personal property sold to the **City** pursuant to the provisions of this **Contract**. These taxes are not to be included in bids. However, this exemption does not apply to tools, machinery, equipment or other property leased by or to the **Contractor**, **Subcontractor** or **Materialman** or to tangible personal property which, even

though it is consumed, is not incorporated into the completed **Work** (consumable supplies) and tangible personal property that the **Contractor** is required to remove from the **Site** during or upon completion of the **Work**. The **Contractor** and its **Subcontractors** and **Materialmen** shall be responsible for and pay any and all applicable taxes, including sales and compensating use taxes, on such leased tools, machinery, equipment or other property and upon all such consumable supplies and tangible personal property that the **Contractor** is required to remove from the **Site** during or upon completion of the **Work**.

62.2 The **Contractor** agrees to sell and the **City** agrees to purchase all tangible personal property, other than consumable supplies and other tangible personal property that the **Contractor** is required to remove from the **Site** during or upon completion of the **Work**, that is required, necessary or proper for or incidental to the construction of the **Project** covered by this **Contract**. The sum paid under this **Contract** for such tangible personal property shall be in full payment and consideration for the sale of such tangible personal property.

62.2.1 The **Contractor** agrees to construct the **Project** and to perform all **Work**, labor and services rendered, necessary, proper or incidental thereto for the sum shown in the bid for the performance of such **Work**, labor, and services, and the sum so paid pursuant to this **Contract** for such **Work**, labor, and services, shall be in full consideration for the performance by the **Contractor** of all its duties and obligations under this **Contract** in connection with said **Work**, labor, and services.

62.3 20 NYCRR Section 541.3(d) provides that a **Contractor's** purchases of tangible personal property that is either incorporated into real property owned by a governmental entity or purchased for and sold to a governmental entity are exempt from sales and use tax. The **City** shall not pay sales tax for any such tangible personal property that it purchases from the **Contractor** pursuant to the **Contract**. With respect to such tangible personal property, the **Contractor**, at the request of the **City**, shall furnish to the **City** such bills of sale and other instruments as may be required by the **City**, properly executed, acknowledged and delivered assuring to the **City** title to such tangible personal property, free of liens and/or encumbrances, and the **Contractor** shall mark or otherwise identify all such tangible personal property as the property of the **City**.

62.4 Title to all tangible personal property to be sold by the **Contractor** to the **City** pursuant to the provisions of the **Contract** shall immediately vest in and become the sole property of the **City** upon delivery of such tangible personal property to the **Site**. Notwithstanding such transfer of title, the **Contractor** shall have the full and continuing responsibility to install such tangible personal property in accordance with the provisions of this **Contract**, protect it, maintain it in a proper condition and forthwith repair, replace and make good any damage thereto, theft or disappearance thereof, and furnish additional tangible personal property in place of any that may be lost, stolen or rendered unusable, without cost to the **City**, until such time as the **Work** covered by the **Contract** is fully accepted by the **City**. Such transfer of title shall in no way affect any of the **Contractor's** obligations hereunder. In the event that, after title has passed to the **City**, any of the tangible personal property is rejected as being defective or otherwise unsatisfactory, title to all such tangible personal property shall be deemed to have been transferred back to the **Contractor**.

62.5 The purchase by **Subcontractors** or **Materialmen** of tangible personal property to be sold hereunder shall be a purchase or procurement for resale to the **Contractor** (either directly or through other **Subcontractors**) and therefore not subject to the aforesaid sales and compensating use taxes, provided that the subcontracts and purchase agreements provide for the resale of such tangible personal property and that such subcontracts and purchase agreements are in a form similar to this **Contract** with respect to the separation of the sale of consumable supplies and tangible personal property that the **Contractor** is required to remove from the **Site** during or upon completion of the **Work** from the **Work** and labor, services, and any other matters to be provided, and provided further that the subcontracts and

purchase agreements provide separate prices for tangible personal property and all other services and matters. Such separation shall actually be followed in practice, including the separation of payments for tangible personal property from the payments for other **Work** and labor and other things to be provided.

62.6 The **Contractor** and its **Subcontractors** and **Materialmen** shall furnish a **Contractor Exempt Purchase Certificate** to all persons, firms or corporations from which they purchase tangible personal property for the performance of the **Work** covered by this **Contract**.

62.7 In the event any of the provisions of this Article 62 shall be deemed to be in conflict with any other provisions of this **Contract** or create any ambiguity, then the provisions of this Article 62 shall control.

ARTICLE 63. INVESTIGATION(S) CLAUSE

63.1 The parties to this **Contract** agree to cooperate fully and faithfully with any investigation, audit or inquiry conducted by a United States, a State of New York (State) or a City governmental agency or authority that is empowered directly or by designation to compel the attendance of witnesses and to examine witnesses under oath, or conducted by the Inspector General of a governmental agency that is a party in interest to the transaction, submitted bid, submitted proposal, contract, lease, permit or license that is the subject of the investigation, audit or inquiry.

63.2 If any person who has been advised that his/her statement, and any information from such statement, will not be used against him/her in any subsequent criminal proceeding refuses to testify before a grand jury or other governmental agency or authority empowered directly or by designation to compel the attendance of witnesses and to examine witnesses under oath concerning the award of or performance under any transaction, agreement, lease, permit, contract, or license entered into with the **City**, the **State**, or any political subdivision or public authority thereof, or the Port Authority of New York and New Jersey, or any local development corporation within the **City**, or any public benefit corporation organized under the **Laws** of the State of New York, or;

63.3 If any person refuses to testify for a reason other than the assertion of his/her privilege against self incrimination in an investigation, audit or inquiry conducted by a **City** or State governmental agency or authority empowered directly or by designation to compel the attendance of witnesses and to take testimony under oath, or by the Inspector General of the governmental agency that is a party in interest in, and is seeking testimony concerning the award of, or performance under any transaction, agreement, lease, permit, contract, or license entered into with the **City**, the **State**, or any political subdivision thereof or any local development corporation within the **City**, then;

63.4 The **Commissioner** whose **Agency** is a party in interest to the transaction, submitted bid, submitted proposal, contract, lease, permit, or license shall convene a hearing, upon not less than five (5) **Days'** written notice to the parties involved to determine if any penalties should attach for the failure of a person to testify.

63.5 If any non-governmental party to the hearing requests an adjournment, the **Commissioner** who convened the hearing may, upon granting the adjournment, suspend any contract, lease, permit, or license, pending the final determination pursuant to Article 63.7 without the **City** incurring any penalty or damages for delay or otherwise.

63.6 The penalties which may attach after a final determination by the **Commissioner** may include but shall not exceed:

63.6.1 The disqualification for a period not to exceed five (5) years from the date of an adverse determination for any person, or any entity of which such person was a member at the time the testimony was sought, from submitting bids for, or transacting business with, or entering into or obtaining any contract, lease, permit or license with or from the City; and/or

63.6.2 The cancellation or termination of any and all such existing City contracts, leases, permits or licenses that the refusal to testify concerns and that have not been assigned as permitted under this **Contract**, nor the proceeds of which pledged, to an unaffiliated and unrelated institutional lender for fair value prior to the issuance of the notice scheduling the hearing, without the City incurring any penalty or damages on account of such cancellation or termination; monies lawfully due for goods delivered, work done, rentals, or fees accrued prior to the cancellation or termination shall be paid by the City.

63.7 The **Commissioner** shall consider and address in reaching his/her determination and in assessing an appropriate penalty the factors in Articles 63.7.1 and 63.7.2. The **Commissioner** may also consider, if relevant and appropriate, the criteria established in Articles 63.7.3 and 63.7.4, in addition to any other information which may be relevant and appropriate:

63.7.1 The party's good faith endeavors or lack thereof to cooperate fully and faithfully with any governmental investigation or audit, including but not limited to the discipline, discharge, or disassociation of any person failing to testify, the production of accurate and complete books and records, and the forthcoming testimony of all other members, agents, assignees or fiduciaries whose testimony is sought.

63.7.2 The relationship of the person who refused to testify to any entity that is a party to the hearing, including but not limited to, whether the person whose testimony is sought has an ownership interest in the entity and/or the degree of authority and responsibility the person has within the entity.

63.7.3 The nexus of the testimony sought to the subject entity and its contracts, leases, permits or licenses with the City.

63.7.4 The effect a penalty may have on an unaffiliated and unrelated party or entity that has a significant interest in an entity subject to penalties under Article 63.6, provided that the party or entity has given actual notice to the **Commissioner** upon the acquisition of the interest, or at the hearing called for in Article 63.4, gives notice and proves that such interest was previously acquired. Under either circumstance the party or entity shall present evidence at the hearing demonstrating the potential adverse impact a penalty will have on such person or entity.

63.8 Definitions:

63.8.1 The term "license" or "permit" as used in this Article 63 shall be defined as a license, permit, franchise or concession not granted as a matter of right.

63.8.2 The term "person" as used in this Article 63 shall be defined as any natural person doing business alone or associated with another person or entity as a partner, director, officer, principal or employee.

63.8.3 The term "entity" as used in this Article 63 shall be defined as any firm, partnership, corporation, association, joint venture, or person that receives monies, benefits, licenses, leases, or permits from or through the City or otherwise transacts business with the City.

63.8.4 The term "member" as used in this Article 63 shall be defined as any person associated with another person or entity as a partner, director, officer, principal or employee.

63.9 In addition to and notwithstanding any other provision of this **Contract**, the **Commissioner** may in his/her sole discretion terminate this **Contract** upon not less than three (3) **Days'** written notice in the event the **Contractor** fails to promptly report in writing to the **Commissioner** of the Department of Investigations ("DOI") of the **City** any solicitation of money, goods, requests for future employment or other benefit or thing of value, by or on behalf of any employee of the **City** or other person, firm, corporation or entity for any purpose which may be related to the procurement or obtaining of this **Contract** by the **Contractor**, or affecting the performance of this **Contract**.

ARTICLE 64. TERMINATION BY THE CITY

64.1 In addition to termination pursuant to any other article of this **Contract**, the **Commissioner** may, at any time, terminate this **Contract** by written notice to the **Contractor**. In the event of termination, the **Contractor** shall, upon receipt of such notice, unless otherwise directed by the **Commissioner**:

64.1.1 Stop **Work** on the date specified in the notice;

64.1.2 Take such action as may be necessary for the protection and preservation of the **City's** materials and property;

64.1.3 Cancel all cancelable orders for material and equipment;

64.1.4 Assign to the **City** and deliver to the **Site** or another location designated by the **Commissioner**, any non-cancelable orders for material and equipment that is not capable of use except in the performance of this **Contract** and has been specifically fabricated for the sole purpose of this **Contract** and not incorporated in the **Work**;

64.1.5 Take no action which will increase the amounts payable by the **City** under this **Contract**.

64.2 In the event of termination by the **City** pursuant to this Article 64, payment to the **Contractor** shall be in accordance with Articles 64.2.1, 64.2.2 or 64.2.3, to the extent that each respective article applies.

64.2.1 Lump Sum Contracts or Items: On all lump sum **Contracts**, or on lump sum items in a **Contract**, the **City** will pay the **Contractor** the sum of the amounts described in Articles 64.2.1(a) and 64.2.1(b), less all payments previously made pursuant to this **Contract**. On lump sum **Contracts** only, the **City** will also pay the **Contractor** an additional sum as provided in Article 64.2.1(c).

64.2.1(a) For **Work** completed prior to the notice of termination, the **Contractor** shall be paid a pro rata portion of the lump sum bid amount, plus approved change orders, based upon the percent completion of the **Work**, as determined by the **Commissioner**. For the purpose of determining the pro rata portion of the lump sum bid amount to which the **Contractor** is entitled, the bid breakdown submitted in accordance with Article 41 shall be considered, but shall not be dispositive. The **Commissioner's** determination hereunder shall be final, binding, and conclusive.

64.2.1(b) For non-cancelable material and equipment that is not capable of use except in the performance of this **Contract** and has been specifically fabricated for the sole purpose of this **Contract**, but not yet incorporated in the **Work**, the **Contractor** shall be paid the lesser of the following, less salvage value:

64.2.1(b)(i) The Direct Cost, as defined in Article 64.2.4; or

64.2.1(b)(ii) The fair and reasonable value, if less than Direct Cost, of such material and equipment, plus necessary and reasonable delivery costs.

64.2.1(b)(iii) In addition, the **Contractor** shall be paid five (5%) percent of the amount described in Article 64.2.1(b)(i) or Article 64.2.1(b)(ii), whichever applies.

64.2.1(c) Except as otherwise provided in Article 64.2.1(d), on all lump sum **Contracts**, the **Contractor** shall be paid the percentage indicated below applied to the difference between the total lump sum bid amount and the total of all payments made prior to the notice of termination plus all payments allowed pursuant to Articles 64.2.1(a) and 64.2.1(b):

64.2.1(c)(i) Five (5%) percent of the first five million (\$5,000,000) dollars; and

64.2.1(c)(ii) Three (3%) percent of any amount between five million (\$5,000,000) dollars and fifteen million (\$15,000,000) dollars; plus

64.2.1(c)(iii) One (1%) percent of any amount over fifteen million (\$15,000,000) dollars.

64.2.1(d) In the event the **City** terminates a lump sum **Contract** pursuant to this Article 64 within ninety (90) **Days** after registration of the **Contract** with the **Comptroller**, the **Contractor** shall be paid one (1%) percent of the difference between the lump sum bid amount and the total of all payments made pursuant to this Article 64.2.

64.2.2 Unit Price Contracts or Items: On all unit price **Contracts**, or on unit price items in a **Contract**, the **City** will pay the **Contractor** the sum of the amounts described in Articles 64.2.2(a) and 64.2.2(b), less all payments previously made pursuant to this **Contract**:

64.2.2(a) For all completed units, the unit price stated in the **Contract**, and

64.2.2(b) For units that have been ordered but are only partially completed, the **Contractor** will be paid:

64.2.2(b)(i) A pro rata portion of the unit price stated in the **Contract** based upon the percent completion of the unit and

64.2.2(b)(ii) For non-cancelable material and equipment, payment will be made pursuant to Article 64.2.1(b).

64.2.3 Time and Materials Contracts or Items Based on Time and Material Records: On all **Contracts** or items in a **Contract** where payment for the **Work** is based on time and

material records, the **Contractor** shall be paid in accordance with Article 26, less all payments previously made pursuant to this **Contract**.

64.2.4 Direct Costs: Direct Costs as used in this Article 64.2 shall mean:

64.2.4(a) The actual purchase price of material and equipment, plus necessary and reasonable delivery costs,

64.2.4(b) The actual cost of labor involved in construction and installation at the **Site**, and

64.2.4(c) The actual cost of necessary bonds and insurance purchased pursuant to requirements of this **Contract** less any amounts that have been or should be refunded by the **Contractor's** sureties or insurance carriers.

64.2.4(d) Direct Costs shall not include overhead.

64.3 In no event shall any payments under this Article 64 exceed the **Contract** price for such items.

64.4 All payments pursuant to Article 64 shall be in the nature of liquidated damages and shall be accepted by the **Contractor** in full satisfaction of all claims against the **City**.

64.5 The **City** may deduct or set off against any sums due and payable pursuant to this Article 64, any deductions authorized by this **Contract** or by **Law** (including but not limited to liquidated damages) and any claims it may have against the **Contractor**. The **City's** exercise of the right to terminate the **Contract** pursuant to this Article 64 shall not impair or otherwise effect the **City's** right to assert any claims it may have against the **Contractor** in a plenary action.

64.6 Where the **Work** covered by the **Contract** has been substantially completed, as determined in writing by the **Commissioner**, termination of the **Work** shall be handled as an omission of **Work** pursuant to Articles 29 and 33, in which case a change order will be issued to reflect an appropriate reduction in the **Contract** sum, or if the amount is determined after final payment, such amount shall be paid by the **Contractor**.

ARTICLE 65. CHOICE OF LAW, CONSENT TO JURISDICTION AND VENUE

65.1 This **Contract** shall be deemed to be executed in the **City** regardless of the domicile of the **Contractor**, and shall be governed by and construed in accordance with the **Laws** of the State of New York and the **Laws** of the United States, where applicable.

65.2 The parties agree that any and all claims asserted against the **City** arising under this **Contract** or related thereto shall be heard and determined in the courts of the State of New York ("New York State Courts") located in the **City** and County of New York. To effect this **Contract** and intent, the **Contractor** agrees:

65.2.1 If the **City** initiates any action against the **Contractor** in Federal court or in a New York State Court, service of process may be made on the **Contractor** either in person, wherever such **Contractor** may be found, or by registered mail addressed to the **Contractor** at its address as set forth in this **Contract**, or to such other address as the **Contractor** may provide to the **City** in writing; and

65.2.2 With respect to any action between the **City** and the **Contractor** in a New York State Court, the **Contractor** hereby expressly waives and relinquishes any rights it might otherwise have:

65.2.2(a) To move to dismiss on grounds of forum non conveniens;

65.2.2(b) To remove to Federal Court; and

65.2.2(c) To move for a change of venue to a New York State Court outside New York County.

65.2.3 With respect to any action brought by the **City** against the **Contractor** in a Federal Court located in the **City**, the **Contractor** expressly waives and relinquishes any right it might otherwise have to move to transfer the action to a Federal Court outside the **City**.

65.2.4 If the **Contractor** commences any action against the **City** in a court located other than in the **City** and County of New York, upon request of the **City**, the **Contractor** shall either consent to a transfer of the action to a New York State Court of competent jurisdiction located in the **City** and County of New York or, if the Court where the action is initially brought will not or cannot transfer the action, the **Contractor** shall consent to dismiss such action without prejudice and may thereafter reinstate the action in a New York State Court of competent jurisdiction in New York County.

65.3 If any provision(s) of this Article 65 is held unenforceable for any reason, each and all other provision(s) shall nevertheless remain in full force and effect.

ARTICLE 66. PARTICIPATION IN AN INTERNATIONAL BOYCOTT

66.1 The **Contractor** agrees that neither the **Contractor** nor any substantially owned affiliated company is participating or shall participate in an international boycott in violation of the provisions of the Federal Export Administration Act of 1979, as amended, or the regulations of the United States Department of Commerce (Commerce Department) promulgated thereunder.

66.2 Upon the final determination by the Commerce Department or any other agency of the United States as to, or conviction of the **Contractor** or a substantially-owned affiliated company thereof for participation in an international boycott in violation of the provisions of the Export Administration Act of 1979, as amended, or the regulations promulgated thereunder, the **Comptroller** may, at his/her option, render forfeit and void this **Contract**.

66.3 The **Contractor** shall comply in all respects, with the provisions of Section 6-114 of the Administrative Code and the rules and regulations issued by the **Comptroller** thereunder.

ARTICLE 67. LOCALLY BASED ENTERPRISE PROGRAM

67.1 This **Contract** is subject to the requirements of Section 6-108.1 of the Administrative Code and regulations promulgated thereunder. No construction contract shall be awarded unless and until these requirements have been complied with in their entirety; however, compliance with this Article 67 is not required if the Agency sets Subcontractor Participation Goals for Minority- and Women-Owned Business Enterprises (M/WBEs).

67.2 Unless specifically waived by the **Commissioner** with the approval of the Division of Economic and Financial Opportunity of the **City Department of Business Services**, if any portion of the **Contract** is subcontracted, not less than ten (10%) percent of the total dollar amount of the **Contract** shall be awarded to locally based enterprises (LBEs); except that where less than ten (10%) percent of the total dollar amount of the **Contract** is subcontracted, such lesser percentage shall be so awarded.

67.3 The **Contractor** shall not require performance and payment bonds from LBE **Subcontractors**.

67.4 If the **Contractor** has indicated prior to award that no **Work** will be subcontracted, no **Work** shall be subcontracted without the prior approval of the **Commissioner**, which shall be granted only if the **Contractor** makes a good faith effort beginning at least six (6) weeks before the **Work** is to be performed to obtain LBE **Subcontractors** to perform the **Work**.

67.5 If the **Contractor** has not identified sufficient LBE **Subcontractors** prior to award, it shall sign a letter of compliance stating that it complies with Section 6-108.1 of the Administrative Code, recognizes that achieving the LBE requirement is a condition of its **Contract**, and shall submit documentation demonstrating its good faith efforts to obtain LBEs. After award, the **Contractor** shall begin to solicit LBE's to perform subcontracted **Work** at least six (6) weeks before the date such **Work** is to be performed and shall demonstrate that a good faith effort has been made to obtain LBEs on each subcontract until it meets the required percentage.

67.6 Failure of the **Contractor** to comply with the requirements of Section 6-108.1 of the Administrative Code and the regulations promulgated thereunder shall constitute a material breach of this **Contract**. Remedy for such breach may include the imposition of any or all of the following sanctions:

67.6.1 Reducing the **Contractor's** compensation by an amount equal to the dollar value of the percentage of the LBE subcontracting requirement not complied with;

67.6.2 Declaring the **Contractor** in default;

67.6.3 If the **Contractor** is an LBE, de-certifying and declaring the **Contractor** ineligible to participate in the LBE program for a period of up to three (3) years.

ARTICLE 68. ANTITRUST

68.1 The **Contractor** hereby assigns, sells, and transfers to the **City** all right, title, and interest in and to any claims and causes of action arising under the antitrust **Laws** of New York State or of the United States relating to the particular goods or services purchased or procured by the **City** under this **Contract**.

ARTICLE 69. MacBRIDE PRINCIPLES PROVISIONS

69.1 Notice To All Prospective **Contractors**:

69.1.1 Local Law No. 34 of 1991 became effective on September 10, 1991 and added Section 6-115.1 of the Administrative Code. The local **Law** provides for certain restrictions on **City Contracts** to express the opposition of the people of the **City** to employment discrimination practices in Northern Ireland to promote freedom of work-place opportunity.

69.1.2 Pursuant to Section 6-115.1, prospective **Contractors** for **Contracts** to provide goods or services involving an expenditure of an amount greater than ten thousand

(\$10,000.) dollars, or for construction involving an amount greater than fifteen thousand (\$15,000.) dollars, are asked to sign a rider in which they covenant and represent, as a material condition of their **Contract**, that any business operations in Northern Ireland conducted by the **Contractor** and any individual or legal entity in which the **Contractor** holds a ten (10%) percent or greater ownership interest in the **Contractor** will be conducted in accordance with the MacBride Principles of nondiscrimination in employment.

69.1.3 Prospective **Contractors** are not required to agree to these conditions. However, in the case of **Contracts** let by competitive sealed bidding, whenever the lowest responsible bidder has not agreed to stipulate to the conditions set forth in this notice and another bidder who has agreed to stipulate to such conditions has submitted a bid within five (5%) percent of the lowest responsible bid for a **Contract** to supply goods, services or construction of comparable quality, the **Agency** shall refer such bids to the Mayor, the Speaker or other officials, as appropriate, who may determine, in accordance with applicable **Law**, that it is in the best interest of the **City** that the **Contract** be awarded to other than the lowest responsible pursuant to Section 313(b)(2) of the **City Charter**.

69.1.4 In the case of **Contracts** let by other than competitive sealed bidding, if a prospective **Contractor** does not agree to these conditions, no **Agency**, elected official or the **City Council** shall award the **Contract** to that bidder unless the **Agency** seeking to use the goods, services or construction certifies in writing that the **Contract** is necessary for the **Agency** to perform its functions and there is no other responsible **Contractor** who will supply goods, services or construction of comparable quality at a comparable price.

69.2 In accordance with Section 6-115.1 of the Administrative Code, the **Contractor** stipulates that such **Contractor** and any individual or legal entity in which the **Contractor** holds a ten (10%) percent or greater ownership interest in the **Contractor** either:

69.2.1 Have no business operations in Northern Ireland, or

69.2.2 Shall take lawful steps in good faith to conduct any business operations they have in Northern Ireland in accordance with the MacBride Principles, and shall permit independent monitoring of their compliance with such principles.

69.3 For purposes of this Article, the following terms shall have the following meanings:

69.3.1 "MacBride Principles" shall mean those principles relating to nondiscrimination in employment and freedom of work-place opportunity which require employers doing business in Northern Ireland to:

69.3.1(a) increase the representation of individuals from under-represented religious groups in the workforce, including managerial, supervisory, administrative, clerical and technical jobs;

69.3.1(b) take steps to promote adequate security for the protection of employees from under-represented religious groups both at the work-place and while traveling to and from **Work**;

69.3.1(c) ban provocative religious or political emblems from the workplace;

69.3.1(d) publicly advertise all job openings and make special recruitment efforts to attract applicants from under-represented religious groups;

69.3.1(e) establish layoff, recall, and termination procedures which do not in practice favor a particular religious group;

69.3.1(f) abolish all job reservations, apprenticeship restrictions and different employment criteria which discriminate on the basis of religion;

69.3.1(g) develop training programs that will prepare substantial numbers of current employees from under-represented religious groups for skilled jobs, including the expansion of existing programs and the creation of new programs to train, upgrade, and improve the skills of workers from under-represented religious groups;

69.3.1(h) establish procedures to assess, identify, and actively recruit employees from under-represented religious groups with potential for further advancement; and

69.3.1(i) appoint a senior management staff member to oversee affirmative action efforts and develop a timetable to ensure their full implementation.

69.4 The **Contractor** agrees that the covenants and representations in Article 69.2 are material conditions to this **Contract**. In the event the **Agency** receives information that the **Contractor** who made the stipulation required by this Article 69 is in violation thereof, the **Agency** shall review such information and give the **Contractor** an opportunity to respond. If the **Agency** finds that a violation has occurred, the **Agency** shall have the right to declare the **Contractor** in default and/or terminate this **Contract** for cause and procure supplies, services or **Work** from another source in the manner the **Agency** deems proper. In the event of such termination, the **Contractor** shall pay to the **Agency**, or the **Agency** in its sole discretion may withhold from any amounts otherwise payable to the **Contractor**, the difference between the **Contract** price for the uncompleted portion of this **Contract** and the cost to the **Agency** of completing performance of this **Contract** either itself or by engaging another **Contractor** or **Contractors**. In the case of a requirement **Contract**, the **Contractor** shall be liable for such difference in price for the entire amount of supplies required by the **Agency** for the uncompleted term of **Contractor's Contract**. In the case of a construction **Contract**, the **Agency** shall also have the right to hold the **Contractor** in partial or total default in accordance with the default provisions of this **Contract**, and/or may seek debarment or suspension of the **Contractor**. The rights and remedies of the **Agency** hereunder shall be in addition to, and not in lieu of, any rights and remedies the **Agency** has pursuant to this **Contract** or by operation of Law.

ARTICLE 70. ELECTRONIC FILING/NYC DEVELOPMENT HUB

70.1 The **Contractor** shall electronically file all alteration type-2 and alteration type-3 applications via the New York City Development Hub Web site, except applications for the following types of minor alterations: enlargements, curb cuts, legalizations, fire alarms, builders pavement plans, and jobs filed on Landmark Preservation Commission calendared properties. All such filings must be professionally certified. Information about electronic filing via the New York City Development Hub is available on the City Department of Buildings Web site at www.nyc.gov/buildings.

ARTICLE 71. PROHIBITION OF TROPICAL HARDWOODS

71.1 Tropical hardwoods, as defined in Section 165 of the New York State Finance Law (Finance Law), shall not be utilized in the performance of this **Contract** except as expressly permitted by Section 165 of the Finance Law.

ARTICLE 72. CONFLICTS OF INTEREST

72.1 Section 2604 of the City Charter and other related provisions of the City Charter, the Administrative Code, and the Penal Law are applicable under the terms of this Contract in relation to conflicts of interest and shall be extended to Subcontractors authorized to perform Work, labor and services pursuant to this Contract and further, it shall be the duty and responsibility of the Contractor to so inform its respective Subcontractors. Notice is hereby given that, under certain circumstances, penalties may be invoked against the donor as well as the recipient of any form of valuable gift.

ARTICLE 73. MERGER CLAUSE

73.1 The written Contract herein, contains all the terms and conditions agreed upon by the parties hereto, and no other agreement, oral or otherwise, regarding the subject matter of this Contract shall be deemed to exist or to bind any of the parties hereto, or to vary any of the terms contained herein.

ARTICLE 74. STATEMENT OF WORK

74.1 The Contractor shall furnish all labor and materials and perform all Work in strict accordance with the Specifications and Addenda thereto, numbered 3.

ARTICLE 75. COMPENSATION TO BE PAID TO CONTRACTOR

75.1 The City will pay and the Contractor will accept in full consideration for the performance of the Contract, subject to additions and deductions as provided herein, the total sum of: Two million Seven hundred and Dollars, (\$ 2,711,000.00), this said sum being the amount at which the Contract was awarded to the Contractor at a public letting thereof, based upon the Contractor's bid for the Contract. Eleven thousand dollars extra

ARTICLE 76. ELECTRONIC FUNDS TRANSFER

76.1 In accordance with Section 6-107.1 of the Administrative Code, the Contractor agrees to accept payments under this Contract from the City by electronic funds transfer (EFT). An EFT is any transfer of funds, other than a transaction originated by check, draft or similar paper instrument, which is initiated through an electronic terminal, telephonic instrument or computer or magnetic tape so as to order, instruct or authorize a financial institution to debit or credit an account. Prior to the first payment made under this Contract, the Contractor shall designate one financial institution or other authorized payment agent and shall complete the attached "EFT Vendor Payment Enrollment Form" in order to provide the Commissioner of the City Department of Finance with information necessary for the Contractor to receive electronic funds transfer payments through a designated financial institution or authorized payment agent. The crediting of the amount of a payment to the appropriate account on the books of a financial institution or other authorized payment agent designated by the Contractor shall constitute full satisfaction by the City for the amount of the payment under this Contract. The account information supplied by the Contractor to facilitate the electronic funds transfer shall remain confidential to the fullest extent provided by Law.

76.2 The Commissioner may waive the application of the requirements of this Article 76 to payments on contracts entered into pursuant to Section 315 of the City Charter. In addition, the Commissioner of the Department of Finance and the Comptroller may jointly issue standards pursuant to

which the Agency may waive the requirements of this Article 76 for payments in the following circumstances: (i) for individuals or classes of individuals for whom compliance imposes a hardship; (ii) for classifications of types of checks; or (iii) in other circumstances as may be necessary in the interest of the City.

ARTICLE 77. RECORDS RETENTION

77.1 The Contractor agrees to retain all books, records, and other documents relevant to this Contract for six years after the final payment or termination of this Contract, whichever is later. City, state, and federal auditors and any other persons duly authorized by the City shall have full access to and the right to examine any such books, records, and other documents during the retention period.

ARTICLE 78. PARTICIPATION BY MINORITY-OWNED AND WOMEN-OWNED BUSINESS ENTERPRISES IN CITY PROCUREMENT

NOTICE TO ALL PROSPECTIVE CONTRACTORS

ARTICLE I. M/WBE PROGRAM

Local Law No. 129 of 2005 added and Local Law 1 of 2013 amended Section 6-129 of the Administrative Code of the City of New York (hereinafter "Section 6-129"). Section 6-129 establishes the program for participation in City procurement ("M/WBE Program") by minority-owned business enterprises ("MBEs") and women-owned business enterprises ("WBEs"), certified in accordance with Section 1304 of the New York City Charter. As stated in Section 6-129, the intent of the program is to address the impact of discrimination on the City's procurement process, and to promote the public interest in avoiding fraud and favoritism in the procurement process, increasing competition for City business, and lowering contract costs. The contract provisions contained herein are pursuant to Section 6-129, and the rules of the Department of Small Business Services ("DSBS") promulgated thereunder.

If this Contract is subject to the M/WBE Program established by Section 6-129, the specific requirements of MBE and/or WBE participation for this Contract are set forth in Schedule B of the Contract (entitled the "M/WBE Utilization Plan"), and are detailed below. The Contractor must comply with all applicable MBE and WBE requirements for this Contract.

All provisions of Section 6-129 are hereby incorporated in the Contract by reference and all terms used herein that are not defined herein shall have the meanings given such terms in Section 6-129. Article I, Part A, below, sets forth provisions related to the participation goals for construction, standard and professional services contracts. Article I, Part B, below, sets forth miscellaneous provisions related to the M/WBE Program.

PART A

PARTICIPATION GOALS FOR CONSTRUCTION, STANDARD AND PROFESSIONAL SERVICES CONTRACTS OR TASK ORDERS

1. The MBE and/or WBE Participation Goals established for this Contract or Task Orders issued pursuant to this Contract, ("Participation Goals"), as applicable, are set forth on Schedule B, Part I to this Contract (see Page 1, line 1 Total Participation Goals) or will be set forth on Schedule B, Part I to Task Orders issued pursuant to this Contract, as applicable.

The Participation Goals represent a percentage of the total dollar value of the Contract or Task Order, as applicable, that may be achieved by awarding subcontracts to firms certified with New York City Department of Small Business Services as MBEs and/or WBEs, and/or by crediting the participation of prime contractors and/or qualified joint ventures as provided in Section 3 below, unless the goals have been waived or modified by Agency in accordance with Section 6-129 and Part A, Sections 10 and 11 below, respectively.

2. If Participation Goals have been established for this Contract or Task Orders issued pursuant to this Contract, Contractor agrees or shall agree as a material term of the Contract that Contractor shall be subject to the Participation

Goals, unless the goals are waived or modified by Agency in accordance with Section 6-129 and Part A, Sections 10 and 11 below, respectively.

3. If **Participation Goals** have been established for this Contract or Task Order issued pursuant to this Contract, a Contractor that is an MBE and/or WBE shall be permitted to count its own participation toward fulfillment of the relevant **Participation Goal**, provided that in accordance with Section 6-129 the value of Contractor's participation shall be determined by subtracting from the total value of the Contract or Task Order, as applicable, any amounts that the Contractor pays to direct subcontractors (as defined in Section 6-129(c)(13)), and provided further that a Contractor that is certified as both an MBE and a WBE may count its own participation either toward the goal for MBEs or the goal for WBEs, but not both.

A Contractor that is a qualified joint venture (as defined in Section 6-129(c)(30)) shall be permitted to count a percentage of its own participation toward fulfillment of the relevant **Participation Goal**. In accordance with Section 6-129, the value of Contractor's participation shall be determined by subtracting from the total value of the Contract or Task Order, as applicable, any amounts that Contractor pays to direct subcontractors, and then multiplying the remainder by the percentage to be applied to total profit to determine the amount to which an MBE or WBE is entitled pursuant to the joint venture agreement, provided that where a participant in a joint venture is certified as both an MBE and a WBE, such amount shall be counted either toward the goal for MBEs or the goal for WBEs, but not both.

4. A. If **Participation Goals** have been established for this Contract, a prospective contractor shall be required to submit with its bid or proposal, as applicable, a completed Schedule B, M/WBE Utilization Plan, Part II (see Pages 2-4) indicating: (a) whether the contractor is an MBE or WBE, or qualified joint venture; (b) the percentage of work it intends to award to direct subcontractors; and (c) in cases where the contractor intends to award direct subcontracts, a description of the type and dollar value of work designated for participation by MBEs and/or WBEs, and the time frames in which such work is scheduled to begin and end. In the event that this M/WBE Utilization Plan indicates that the bidder or proposer, as applicable, does not intend to meet the **Participation Goals**, the bid or proposal, as applicable, shall be deemed non-responsive, unless Agency has granted the bidder or proposer, as applicable, a pre-award waiver of the Participation Goals in accordance with Section 6-129 and Part A, Section 10 below.

B. (i) If this Contract is for a master services agreement or other requirements type contract that will result in the issuance of Task Orders that will be individually registered ("Master Services Agreement") and is subject to M/WBE **Participation Goals**, a prospective contractor shall be required to submit with its bid or proposal, as applicable, a completed Schedule B, M/WBE Participation Requirements for Master Services Agreements That Will Require Individually Registered Task Orders, Part II (page 2) indicating the prospective contractor's certification and required affirmations to make all reasonable good faith efforts to meet participation goals established on each individual Task Order issued pursuant to this Contract, or if a partial waiver is obtained or such goals are modified by the Agency, to meet the modified **Participation Goals** by soliciting and obtaining the participation of certified MBE and/or WBE firms. In the event that the Schedule B indicates that the bidder or proposer, as applicable, does not intend to meet the **Participation Goals** that may be established on Task Orders issued pursuant to this Contract, the bid or proposal, as applicable, shall be deemed nonresponsive.

(ii) **Participation Goals** on a Master Services Agreement will be established for individual Task Orders issued after the Master Services Agreement is awarded. If **Participation Goals** have been established on a Task Order, a contractor shall be required to submit a Schedule B – M/WBE Utilization Plan For Independently Registered Task Orders That Are Issued Pursuant to Master Services Agreements, Part II (see Pages 2-4) indicating: (a) whether the contractor is an MBE or WBE, or qualified joint venture; (b) the percentage of work it intends to award to direct subcontractors; and (c) in cases where the contractor intends to award direct subcontracts, a description of the type and dollar value of work designated for participation by MBEs and/or WBEs, and the time frames in which such work is scheduled to begin and end. The contractor must engage in good faith efforts to meet the **Participation Goals** as established for the Task Order unless Agency has granted the contractor a pre-award waiver of the Participation Goals in accordance with Section 6-129 and Part A, Section 10 below.

C. **THE BIDDER/PROPOSER MUST COMPLETE THE SCHEDULE B INCLUDED HEREIN (SCHEDULE B, PART II). A SCHEDULE B SUBMITTED BY THE BIDDER/PROPOSER WHICH DOES NOT INCLUDE THE VENDOR CERTIFICATION AND REQUIRED AFFIRMATIONS (SEE SECTION V OF PART II) WILL BE DEEMED TO BE NON-RESPONSIVE, UNLESS A FULL WAIVER OF THE PARTICIPATION GOALS IS GRANTED (SCHEDULE B, PART III). IN THE EVENT THAT THE CITY DETERMINES THAT THE BIDDER/PROPOSER HAS SUBMITTED A SCHEDULE B WHERE THE VENDOR CERTIFICATION AND REQUIRED AFFIRMATIONS ARE COMPLETED BUT OTHER**

ASPECTS OF THE SCHEDULE B ARE NOT COMPLETE, OR CONTAIN A COPY OR COMPUTATION ERROR THAT IS AT ODDS WITH THE VENDOR CERTIFICATION AND AFFIRMATIONS, THE BIDDER/PROPOSER WILL BE NOTIFIED BY THE AGENCY AND WILL BE GIVEN FOUR (4) CALENDAR DAYS FROM RECEIPT OF NOTIFICATION TO CURE THE SPECIFIED DEFICIENCIES AND RETURN A COMPLETED SCHEDULE B TO THE AGENCY. FAILURE TO DO SO WILL RESULT IN A DETERMINATION THAT THE BID/PROPOSAL IS NON-RESPONSIVE. RECEIPT OF NOTIFICATION IS DEFINED AS THE DATE NOTICE IS E-MAILED OR FAXED (IF THE BIDDER/PROPOSER HAS PROVIDED AN E-MAIL ADDRESS OR FAX NUMBER), OR NO LATER THAN FIVE (5) CALENDAR DAYS FROM THE DATE OF MAILING OR UPON DELIVERY, IF DELIVERED.

5. Where an M/WBE Utilization Plan has been submitted, the Contractor shall, within 30 days of issuance by Agency of a notice to proceed, submit a list of proposed persons or entities to which it intends to award subcontracts within the subsequent 12 months. In the case of multiyear contracts, such list shall also be submitted every year thereafter. The Agency may also require the Contractor to report periodically about the contracts awarded by its direct subcontractors to indirect subcontractors (as defined in Section 6-129(c)(22)). **PLEASE NOTE:** If this Contract is a public works project subject to GML §101(5) (i.e., a contract valued at or below \$3M for projects in New York City) or if the Contract is subject to a project labor agreement in accordance with Labor Law §222, and the bidder is required to identify at the time of bid submission its intended subcontractors for the Wicks trades (plumbing and gas fitting; steam heating, hot water heating, ventilating and air conditioning (HVAC); and electric wiring), the Contractor must identify all those to which it intends to award construction subcontracts for any portion of the Wicks trade work at the time of bid submission, regardless of what point in the life of the contract such subcontracts will occur. In identifying intended subcontractors in the bid submission, bidders may satisfy any Participation Goals established for this Contract by proposing one or more subcontractors that are MBEs and/or WBEs for any portion of the Wicks trade work. In the event that the Contractor's selection of a subcontractor is disapproved, the Contractor shall have a reasonable time to propose alternate subcontractors.

6. MBE and WBE firms must be certified by DSBS in order for the Contractor to credit such firms' participation toward the attainment of the **Participation Goals**. Such certification must occur prior to the firms' commencement of work. A list of MBE and WBE firms may be obtained from the DSBS website at www.nyc.gov/buycertified, by emailing DSBS at buyer@sbs.nyc.gov, by calling (212) 513-6356, or by visiting or writing DSBS at 110 William St., New York, New York, 10038, 7th floor. Eligible firms that have not yet been certified may contact DSBS in order to seek certification by visiting www.nyc.gov/getcertified, emailing MWBE@sbs.nyc.gov, or calling the DSBS certification helpline at (212) 513-6311. A firm that is certified as both an MBE and a WBE may be counted either toward the goal for MBEs or the goal for WBEs, but not both. No credit shall be given for participation by a graduate MBE or graduate WBE, as defined in Section 6-129(c)(20).

7. Where an M/WBE Utilization Plan has been submitted, the Contractor shall, with each voucher for payment, and/or periodically as Agency may require, submit statements, certified under penalty of perjury, which shall include, but not be limited to: the total amount the Contractor paid to its direct subcontractors, and, where applicable pursuant to Section 6-129(j), the total amount direct subcontractors paid to indirect subcontractors; the names, addresses and contact numbers of each MBE or WBE hired as a subcontractor by the Contractor, and, where applicable, hired by any of the Contractor's direct subcontractors; and the dates and amounts paid to each MBE or WBE. The Contractor shall also submit, along with its voucher for final payment: the total amount it paid to subcontractors, and, where applicable pursuant to Section 6-129(j), the total amount its direct subcontractors paid directly to their indirect subcontractors; and a final list, certified under penalty of perjury, which shall include the name, address and contact information of each subcontractor that is an MBE or WBE, the work performed by, and the dates and amounts paid to each.

8. If payments made to, or work performed by, MBEs or WBEs are less than the amount specified in the Contractor's M/WBE Utilization Plan, Agency shall take appropriate action, in accordance with Section 6-129 and Article II below, unless the Contractor has obtained a modification of its M/WBE Utilization Plan in accordance with Section 6-129 and Part A, Section 11 below.

9. Where an M/WBE Utilization Plan has been submitted, and the Contractor requests a change order the value of which exceeds the greater of 10 percent of the Contract or Task Order, as applicable, or \$500,000, Agency shall review the scope of work for the Contract or Task Order, as applicable, and the scale and types of work involved in the change order, and determine whether the **Participation Goals** should be modified.

10. Pre-award waiver of the **Participation Goals**. (a) A bidder or proposer, or contractor with respect to a Task Order, may seek a pre-award full or partial waiver of the **Participation Goals** in accordance with Section 6-129, which

requests that Agency change one or more **Participation Goals** on the grounds that the **Participation Goals** are unreasonable in light of the availability of certified firms to perform the services required, or by demonstrating that it has legitimate business reasons for proposing a lower level of subcontracting in its M/WBE Utilization Plan.

(b) To apply for a full or partial waiver of the **Participation Goals**, a bidder, proposer, or contractor, as applicable, must complete Part III (Page 5) of Schedule B and submit such request no later than seven (7) calendar days prior to the date and time the bids, proposals, or Task Orders are due, in writing to the Agency by email at poped@ddc.nyc.gov or via facsimile at (718) 391-1886. Bidders, proposers, or contractors, as applicable, who have submitted requests will receive an Agency response by no later than two (2) calendar days prior to the due date for bids, proposals, or Task Orders; provided, however, that if that date would fall on a weekend or holiday, an Agency response will be provided by close-of-business on the business day before such weekend or holiday date.

(c) If the Agency determines that the **Participation Goals** are unreasonable in light of the availability of certified firms to perform the services required, it shall revise the solicitation and extend the deadline for bids and proposals, or revise the Task Order, as applicable.

(d) Agency may grant a full or partial waiver of the **Participation Goals** to a bidder, proposer or contractor, as applicable, who demonstrates—before submission of the bid, proposal or Task Order, as applicable—that it has legitimate business reasons for proposing the level of subcontracting in its M/WBE Utilization Plan. In making its determination, Agency shall consider factors that shall include, but not be limited to, whether the bidder, proposer or contractor, as applicable, has the capacity and the bona fide intention to perform the Contract without any subcontracting, or to perform the Contract without awarding the amount of subcontracts represented by the **Participation Goals**. In making such determination, Agency may consider whether the M/WBE Utilization Plan is consistent with past subcontracting practices of the bidder, proposer or contractor, as applicable, whether the bidder, proposer or contractor, as applicable, has made efforts to form a joint venture with a certified firm, and whether the bidder, proposer, or contractor, as applicable, has made good faith efforts to identify other portions of the Contract that it intends to subcontract.

11. Modification of M/WBE Utilization Plan. (a) A Contractor may request a modification of its M/WBE Utilization Plan after award of this Contract. **PLEASE NOTE: If this Contract is a public works project subject to GML §101(5) (i.e., a contract valued at or below \$3M for projects in New York City) or if the Contract is subject to a project labor agreement in accordance with Labor Law §222, and the bidder is required to identify at the time of bid submission its intended subcontractors for the Wicks trades (plumbing and gas fitting; steam heating, hot water heating, ventilating and air conditioning (HVAC); and electric wiring), the Contractor may request a Modification of its M/WBE Utilization Plan as part of its bid submission.** The Agency may grant a request for Modification of a Contractor's M/WBE Utilization Plan if it determines that the Contractor has established, with appropriate documentary and other evidence, that it made reasonable, good faith efforts to meet the **Participation Goals**. In making such determination, Agency shall consider evidence of the following efforts, as applicable, along with any other relevant factors:

- (i) The Contractor advertised opportunities to participate in the Contract, where appropriate, in general circulation media, trade and professional association publications and small business media, and publications of minority and women's business organizations;
- (ii) The Contractor provided notice of specific opportunities to participate in the Contract, in a timely manner, to minority and women's business organizations;
- (iii) The Contractor sent written notices, by certified mail or facsimile, in a timely manner, to advise MBEs or WBEs that their interest in the Contract was solicited;
- (iv) The Contractor made efforts to identify portions of the work that could be substituted for portions originally designated for participation by MBEs and/or WBEs in the M/WBE Utilization Plan, and for which the Contractor claims an inability to retain MBEs or WBEs;
- (v) The Contractor held meetings with MBEs and/or WBEs prior to the date their bids or proposals were due, for the purpose of explaining in detail the scope and requirements of the work for which their bids or proposals were solicited;
- (vi) The Contractor made efforts to negotiate with MBEs and/or WBEs as relevant to perform specific subcontracts, or act as suppliers or service providers;
- (vii) Timely written requests for assistance made by the Contractor to Agency's M/WBE liaison officer and to DSBS;

- (viii) Description of how recommendations made by DSBS and Agency were acted upon and an explanation of why action upon such recommendations did not lead to the desired level of participation of MBEs and/or WBEs.

Agency's M/WBE officer shall provide written notice to the Contractor of the determination.

(b) The Agency may modify the **Participation Goals** when the scope of the work has been changed by the Agency in a manner that affects the scale and types of work that the Contractor indicated in its M/WBE Utilization Plan would be awarded to subcontractors.

12. If this Contract is for an indefinite quantity of construction, standard or professional services or is a requirements type contract and the Contractor has submitted an M/WBE Utilization Plan and has committed to subcontract work to MBEs and/or WBEs in order to meet the **Participation Goals**, the Contractor will not be deemed in violation of the M/WBE Program requirements for this Contract with regard to any work which was intended to be subcontracted to an MBE and/or WBE to the extent that the Agency has determined that such work is not needed.

13. If **Participation Goals** have been established for this Contract or a Task Order issued pursuant to this Contract, at least once annually during the term of the Contract or Task Order, as applicable, Agency shall review the Contractor's progress toward attainment of its M/WBE Utilization Plan, including but not limited to, by reviewing the percentage of work the Contractor has actually awarded to MBE and/or WBE subcontractors and the payments the Contractor made to such subcontractors.

14. If **Participation Goals** have been established for this Contract or a Task Order issued pursuant to this Contract, Agency shall evaluate and assess the Contractor's performance in meeting those goals, and such evaluation and assessment shall become part of the Contractor's overall contract performance evaluation.

PART B: MISCELLANEOUS

1. The Contractor shall take notice that, if this solicitation requires the establishment of an M/WBE Utilization Plan, the resulting contract may be audited by DSBS to determine compliance with Section 6-129. See §6-129(e)(10). Furthermore, such resulting contract may also be examined by the City's Comptroller to assess compliance with the M/WBE Utilization Plan.

2. Pursuant to DSBS rules, construction contracts that include a requirement for an M/WBE Utilization Plan shall not be subject to the law governing Locally Based Enterprises set forth in Section 6-108.1 of the Administrative Code of the City of New York.

3. DSBS is available to assist contractors and potential contractors in determining the availability of MBEs and/or WBEs to participate as subcontractors, and in identifying opportunities that are appropriate for participation by MBEs and/or WBEs in contracts.

4. Prospective contractors are encouraged to enter into qualified joint venture agreements with MBEs and/or WBEs as defined by Section 6-129(c)(30).

5. By submitting a bid or proposal the Contractor hereby acknowledges its understanding of the M/WBE Program requirements set forth herein and the pertinent provisions of Section 6-129, and any rules promulgated thereunder, and if awarded this Contract, the Contractor hereby agrees to comply with the M/WBE Program requirements of this Contract and pertinent provisions of Section 6-129, and any rules promulgated thereunder, all of which shall be deemed to be material terms of this Contract. The Contractor hereby agrees to make all reasonable, good faith efforts to solicit and obtain the participation of MBEs and/or WBEs to meet the required **Participation Goals**.

ARTICLE II. ENFORCEMENT

1. If Agency determines that a bidder or proposer, as applicable, has, in relation to this procurement, violated Section 6-129 or the DSBS rules promulgated pursuant to Section 6-129, Agency may disqualify such bidder or proposer, as applicable, from competing for this Contract and the Agency may revoke such bidder's or proposer's prequalification status, if applicable.

2. Whenever Agency believes that the Contractor or a subcontractor is not in compliance with Section 6-129 or the DSBS rules promulgated pursuant to Section 6-129, or any provision of this Contract that implements Section 6-129, including, but not limited to any **M/WBE Utilization Plan**, Agency shall send a written notice to the Contractor describing the alleged noncompliance and offering the Contractor an opportunity to be heard. Agency shall then conduct an investigation to determine whether such Contractor or subcontractor is in compliance.

3. In the event that the Contractor has been found to have violated Section 6-129, the DSBS rules promulgated pursuant to Section 6-129, or any provision of this Contract that implements Section 6-129, including, but not limited to, any **M/WBE Utilization Plan**, Agency may determine that one of the following actions should be taken:

- (a) entering into an agreement with the Contractor allowing the Contractor to cure the violation;
- (b) revoking the Contractor's pre-qualification to bid or make proposals for future contracts;
- (c) making a finding that the Contractor is in default of the Contract;
- (d) terminating the Contract;
- (e) declaring the Contractor to be in breach of Contract;
- (f) withholding payment or reimbursement;
- (g) determining not to renew the Contract;
- (h) assessing actual and consequential damages;
- (i) assessing liquidated damages or reducing fees, provided that liquidated damages may be based on amounts representing costs of delays in carrying out the purposes of the **M/WBE Program**, or in meeting the purposes of the Contract, the costs of meeting utilization goals through additional procurements, the administrative costs of investigation and enforcement, or other factors set forth in the Contract;
- (j) exercising rights under the Contract to procure goods, services or construction from another contractor and charge the cost of such contract to the Contractor that has been found to be in noncompliance; or
- (k) taking any other appropriate remedy.

4. If an **M/WBE Utilization Plan** has been submitted, and pursuant to this Article II, Section 3, the Contractor has been found to have failed to fulfill its **Participation Goals** contained in its **M/WBE Utilization Plan** or the **Participation Goals** as modified by Agency pursuant to Article I, Part A, Section 11, Agency may assess liquidated damages in the amount of ten percent (10%) of the difference between the dollar amount of work required to be awarded to MBE and/or WBE firms to meet the **Participation Goals** and the dollar amount the Contractor actually awarded and paid, and/or credited, to MBE and/or WBE firms. In view of the difficulty of accurately ascertaining the loss which the City will suffer by reason of Contractor's failure to meet the **Participation Goals**, the foregoing amount is hereby fixed and agreed as the liquidated damages that the City will suffer by reason of such failure, and not as a penalty. Agency may deduct and retain out of any monies which may become due under this Contract the amount of any such liquidated damages; and in case the amount which may become due under this Contract shall be less than the amount of liquidated damages suffered by the City, the Contractor shall be liable to pay the difference.

5. Whenever Agency has reason to believe that an MBE and/or WBE is not qualified for certification, or is participating in a contract in a manner that does not serve a commercially useful function (as defined in Section 6-129(c)(8)), or has violated any provision of Section 6-129, Agency shall notify the Commissioner of DSBS who shall determine whether the certification of such business enterprise should be revoked.

6. Statements made in any instrument submitted to Agency pursuant to Section 6-129 shall be submitted under penalty of perjury and any false or misleading statement or omission shall be grounds for the application of any applicable criminal and/or civil penalties for perjury. The making of a false or fraudulent statement by an MBE and/or WBE in any instrument submitted pursuant to Section 6-129 shall, in addition, be grounds for revocation of its certification.

7. The Contractor's record in implementing its **M/WBE Utilization Plan** shall be a factor in the evaluation of its performance. Whenever Agency determines that a Contractor's compliance with an **M/WBE Utilization Plan** has been unsatisfactory, Agency shall, after consultation with the City Chief Procurement Officer, file an advice of caution form for inclusion in VENDEX as caution data.

IN WITNESS WHEREOF, the Commissioner, on behalf of the City of New York, and the Contractor, have executed this agreement in quadruplicate, two parts of which are to remain with the Commissioner, another to be filed with the Comptroller of the City, and the fourth to be delivered to the Contractor.

THE CITY OF NEW YORK

By: _____

[Signature]
Deputy Commissioner

CONTRACTOR: *Knightsbridge Construction Corp.*

By: _____

(Member of Firm or Officer of Corporation)

Title: _____

[Signature]
Jerry Sadovskiy
PARS

(Where Contractor is a Corporation, add):
Attest:

Secretary

(Seal)

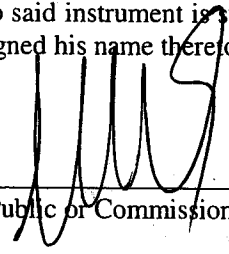
ACKNOWLEDGMENT OF PRINCIPAL, IF A CORPORATION

State of NEW YORK County of QUEENS ss:

On this 27 day of April, before me personally came Jeffrey Sodiowsky
to me known, who, being by me duly sworn did depose and say that he resides at Great Neck, NY
that he is the PRES

of the corporation described in and which executed the foregoing instrument; that he knows the seal of said corporation; that one of the seals affixed to said instrument is such seal; that it was so affixed by order of the directors of said corporation, and that he signed his name thereto by like order.

VICTORIA AYO-VAUGHAN
Notary Public, State of New York
No. 01AY5014042
Qualified in Queens County
Commission Expires July 15, 2019


Notary Public or Commissioner of Deeds

ACKNOWLEDGMENT OF PRINCIPAL, IF A PARTNERSHIP

State of _____ County of _____ ss:

On this _____ day of _____, before me personally appeared _____
to me known, and known to me to be one of the members of the firm of _____
described in and who executed the foregoing instrument; and he
acknowledged to me that he executed the same as and for the act and deed of said firm.

Notary Public or Commissioner of Deeds

ACKNOWLEDGMENT OF PRINCIPAL, IF AN INDIVIDUAL

State of _____ County of _____ ss:

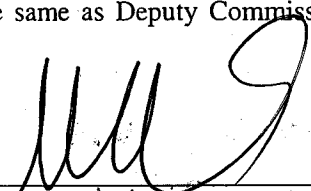
On this _____ day of _____, before me personally appeared _____
to me known, and known to me to be the person described in and who executed the foregoing instrument; and
acknowledged that he executed the same.

Notary Public or Commissioner of Deeds

ACKNOWLEDGMENT BY COMMISSIONER

State of New York County of Queens ss:

On this 18th day of April 2017, before me personally came Thomas Feley
to me known, and known to be the Deputy Commissioner of the Department of Design and Construction of
The City of New York, the person described as such in and who as such executed the foregoing instrument
and he acknowledged to me that he executed the same as Deputy Commissioner for the purposes therein
mentioned.



Notary Public or Commissioner of Deeds

VICTORIA AYO-VAUGHAN
Notary Public, State of New York
No. 01AY5014042
Qualified in Queens County
Commission Expires July 15, 2019

AUTHORITY

MAYOR'S CERTIFICATE NO. CBX
BUDGET DIRECTOR'S CERTIFICATE NO.

DATED
DATED

APPROPRIATION
COMMISSIONER'S CERTIFICATE

In conformity with the provisions of Section 6-101 of the Administrative Code of the City of New York, it is hereby certified that the estimated cost of the work, materials and supplies required by the within Contract, amounting to

Two million Seven hundred and
eleven thousand dollars 10/100.

Dollars (\$ 2,711,000.00)

is chargeable to the fund of the Department of Design and Construction entitled Code

CO27ELEV2

Department of Design and Construction

I hereby certify that the specifications contained herein comply with the terms and conditions of the BUDGET.


Deputy Commissioner

COMPTROLLER'S CERTIFICATE

The City of New York _____

Pursuant to the provisions of Section 6-101 of the Administrative Code of the City of New York, I hereby certify that there remains unapplied and unexpended a balance of the above mentioned fund applicable to this Contract sufficient to pay the estimated expense of executing the same viz:

\$ _____

Comptroller

**MAYOR'S CERTIFICATE OR
CERTIFICATE OF THE DIRECTOR
OF THE BUDGET**

Performance Bond #1 (Pages 90 to 93): Use if the total contract price is \$5 Million Or Less. Performance Bond #1 has been approved by the U.S. Small Business Administration ("SBA") for participation in its Bond Guarantee Program.

PERFORMANCE BOND #1 (Page 1)

PERFORMANCE BOND #1

KNOW ALL PERSONS BY THESE PRESENTS, That we, _____

hereinafter referred to as the "Principal", and _____

hereinafter referred to as the "Surety" ("Sureties") are held and firmly bound to THE CITY OF NEW YORK, hereinafter referred to as the "City" or to its successors and assigns, in the penal sum of

(\$ _____) Dollars, lawful money of the United States, for the payment of which said sum of money well and truly to be made, we, and each of us, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal is about to enter, or has entered, into a Contract in writing with the City for

a copy of which Contract is annexed to and hereby made a part of this bond as though herein set forth in full;

Performance Bond \$5 Million Or Less (SBA Approved)

PERFORMANCE BOND

Bond No. 39BCSGO1476

KNOW ALL PEOPLE BY THESE PRESENTS:,

That we, KNIGHTSBRIDGE CONSTRUCTION CORP.

33 GREAT NECK ROAD, GREAT NECK, NY 11021

hereinafter referred to as the "Principal,"

and, Hartford Fire Insurance Company

One Hartford Plaza, Hartford, CT 06155-0001

hereinafter referred to as the "Surety" ("Sureties") are held and firmly bound to THE CITY OF NEW YORK, hereinafter referred to as the "City" or to its successors and assigns in the penal sum of _____

Two Million Seven Hundred Eleven Thousand Dollars and 00/100

(\$ 2,711,000.00) Dollars, lawful money of the United States for the payment of which said sum of money well and truly to be made, we, and each of us, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, The Principal is about to enter, or has entered, into a Contract in writing with the City for

FMS ID: CO277ELV2 - DDC PIN: 8502016C0T0015C - COURT SQUARE COURTHOUSE ELEVATOR

MODERNIZATION AND UPGRADES/QUEENS

a copy of which Contract is annexed to and hereby made a part of this bond as though herein set forth in full;

NOW, THEREFORE, the conditions of this obligation are such that if the Principal, his or its representatives or assigns, shall well and faithfully perform the said Contract and all modifications, amendments, additions and alterations thereto that may hereafter be made, according to its terms and its true intent and meaning, including repair and or replacement of defective work and guarantees of maintenance for the periods stated in the Contract, and shall fully indemnify and save harmless the City from all cost and damage which it may suffer by reason of the Principal's default of the Contract, and shall fully reimburse and repay the City for all outlay and expense which the City may incur in making

Performance Bond \$5 Million Or Less (SBA Approved)

good any such default and shall protect the said City of New York against, and pay any and all amounts, damages, cost and judgments which may or shall be recovered against said City or its officers or agents or which the said City of New York may be called upon to pay any person or corporation by reason of any damages arising or growing out of the Principal's default of the Contract, then this obligation shall be null and void, otherwise to remain in full force and effect.

The Surety (Sureties), for value received, hereby stipulates and agrees, upon written notice from the City that the City has determined that the Principal is in default of the Contract, to (1) pay the City the cost to complete the contract as determined by the City in excess of the balance of the Contract held by the City, plus any damages or costs to which the City is entitled, up to the full amount of the above penal sum, (2) fully perform and complete the Work to be performed under the Contract, pursuant to the terms, conditions, and covenants thereof, or (3) tender a completion Contractor that is acceptable to the City. The Surety (Sureties) further agrees, at its option, either to notify the City that it elects to pay the city the cost of completion plus any applicable damages and costs under option (1) above, or to commence and diligently perform the Work specified in the Contract, including physical site work, within twenty-five (25) business days after written notice thereof from the City and, if the Surety elects to fully perform and complete the Work, then to complete all Work within the time set forth in the Contract or such other time as agreed to between the City and Surety in accordance with the Contract. If the Surety elects to tender payment pursuant to (1) above, then the Surety shall tender such amount within fifteen (15) business days notification from the City of the cost of completion. The Surety and the City reserve all rights and defenses each may have against the other; provided, however, that the Surety expressly agrees that its reservation of rights shall not provide a basis for non-performance of its obligation to pay the City the cost of completion, to commence and complete all Work as provided herein, or to tender a completion contractor.

The Surety (Sureties), for value received, for itself and its successors and assigns, hereby stipulates and agrees that the obligation of said Surety (Sureties) and its bond shall be in no way impaired or affected by any extension of time, modification, omission, addition, or change in or to the said Contract or the Work to be performed thereunder, or by any payment thereunder before the time required therein, or by any waiver of any provisions thereof, or any moneys due or to become due thereunder; and said Surety (Sureties) does hereby waive notice of any and all of such extensions, modifications, omissions, additions, changes, payments, and waivers, and hereby expressly stipulates and agrees that any and all things done and omitted to be done by and in relation to subcontractors shall have the same effect as to said Surety (Sureties) as though done or omitted to be done by or in relation to said Principal. Notwithstanding the above, if the City makes payments to the Principal before the time required by the contract that in the aggregate exceed \$100,000 or 10% of the Contract price, whichever is less, and that have not become earned prior to the Principal being found to be in default, then all payments made to the Principal before the time required by the Contract shall be added to the remaining contract value available to be paid for the completion of the Contract as if such sums had not been paid to the Principal, but shall not provide a basis for non-performance of its obligation to pay the City the cost of completion, to commence and to complete all Work as provided herein, or to tender a completion contractor

IN WITNESS WHEREOF, The Principal and the Surety (Sureties) have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereunto affixed and these presents to be signed by their proper officers, this

Performance Bond \$5 Million Or Less (SBA Approved)

(Seal) 21st day of April 2017

KNIGHTSBRIDGE CONSTRUCTION CORP. (L.S.)

Principal

(Seal)

By

[Signature]
JEREMY SODAWSKY, PRES

Surety

Hartford Fire Insurance Company

By

[Signature]
William D. Haas Attorney-in-Fact

Surety

(Seal)



By

Surety

(Seal)

By

Surety

(Seal)

By

Surety

(Seal)

By

Bond Premium Rate \$19 slide

Bond Premium Cost \$36,032

If the Contractor (Principal) is a partnership, the bond should be signed by each of the individuals who are partners.

If the Contractor (Principal) is a corporation, the bond should be signed in its correct corporate name by a duly authorized officer, agent, or attorney-in-fact.

There should be executed an appropriate number of counterparts of the bond corresponding to the number of counterparts of the Contract.

Performance Bond \$5 Million Or Less (SBA Approved)

ACKNOWLEDGMENT OF PRINCIPAL IF A CORPORATION

State of New York County of Nassau ss:

On this 25th day of April 2017 before me personally
came Jeffrey Sadowsky,
to me known, who, being by me duly sworn did depose and say that he/she resides
at Great Neck, NY

; that he/she is the Pres of Knightsbridge Construction Corp
of the corporation described in and which executed the foregoing instrument; and that he signed his
name to the foregoing instrument by order of the directors of said corporation as the duly authorized and
binding act thereof.

Wadhera

Notary Public or Commissioner of Deeds.

MANJUSHA WADHERA
Notary Public - State of New York
No. 01WA6292637
Qualified in Nassau County
My Commission Expires Nov. 04, 2017

ACKNOWLEDGMENT OF PRINCIPAL IF A PARTNERSHIP

State of _____ County of _____ ss:

On this _____ day of _____ before me personally
came _____
to me known, who, being by me duly sworn did depose and say that he/she resides
at _____

; that he/she is _____ partner of
_____, a limited/general partnership existing under the laws of the State of
_____, the partnership described in and which executed the foregoing instrument;
and that he/she signed his/her name to the foregoing instrument as the duly authorized and binding act of
said partnership.

Notary Public or Commissioner of Deeds.

RECEIVED
JAN 10 1964
U.S. DEPARTMENT OF AGRICULTURE
WASHINGTON, D.C.

Performance Bond \$5 Million Or Less (SBA Approved)

ACKNOWLEDGMENT OF PRINCIPAL IF AN INDIVIDUAL

State of _____ County of _____ ss:

On this _____ day of _____ before me personally
came _____

to me known, who, being by me duly sworn did depose and say that he/she resides
at _____

_____, and that he/she is the individual whose name is
subscribed to the within instrument and acknowledged to me that by his/her signature on the
instrument, said individual executed the instrument.

Notary Public or Commissioner of Deeds.

Affix Acknowledgments and justification of Sureties


BOND

BOND

ACKNOWLEDGMENT BY SURETY COMPANY
(Signed by One Authorized Person)

STATE OF NEW YORK)
) ss.:
COUNTY OF WESTCHESTER)

On this 21st day of APRIL, 2017, before me personally came
WILLIAM D. HAAS to me known, and known to me to be the
(Name)
ATTORNEY-IN-FACT of HARTFORD FIRE INSURANCE COMPANY,
(Title) (Name of Corporation)
the Corporation described in and which executed the within instrument, who being by me duly
sworn did depose and say that he/she resides at RYE, NEW YORK
_____ and that he/she is the ATTORNEY-IN-FACT of said Corporation
(Title)
and knows the Corporate Seal of the said Corporation; that the seal affixed to the within
instrument is such Corporate Seal and so affixed by order of the Board of Directors of said
Corporation and that he/she signed his/her name thereto by like order; and that the said
Corporation has received from the Superintendent of Insurance of the State of New York a
Certificate of Solvency, and of its sufficiency as Surety or Guarantor, pursuant to Section 327 of
the Insurance Law of the State of New York as amended, and that such Certificate has not been
revoked.



Notary Public

ALICE MCCARTHY
NOTARY PUBLIC, State of New York
No. 01MC5079342
Qualified in Dutchess County
Commission Expires June 02, 2019

HARTFORD FIRE INSURANCE COMPANY

Hartford, Connecticut
Financial Statement, June 30, 2016
Statutory Basis

ASSETS

U.S. Government Bonds	\$ 511,271,791
Bonds of Other Governments	143,805,859
State, County, Municipal	
Miscellaneous Bonds	12,010,958,895
Stocks	5,644,194,495
Short Term Investments	373,530,086
	<u>\$ 18,683,761,126</u>
Real Estate	\$ 361,230,861
Cash	72,583,334
Agents' Balances (Under 90 Day)	3,003,227,502
Other Invested Assets	438,950,733
Miscellaneous	3,042,353,045
Total Admitted Assets	<u>\$ 25,602,106,601</u>

LIABILITIES

Reserve for Claims	\$
and Claim Expense	7,690,472,270
Reserve for Unearned Premiums	2,163,378,783
Reserve for Taxes, License	
and Fees	55,987,906
Miscellaneous Liabilities	2,597,812,034
Total Liabilities	<u>\$ 12,507,650,993</u>
Capital Paid In	\$ 55,320,000
Surplus	13,039,135,608
Surplus as regards Policyholders	<u>\$ 13,094,455,608</u>
Total Liabilities, Capital	
and Surplus	<u>\$ 25,602,106,601</u>

STATE OF CONNECTICUT

COUNTY OF HARTFORD

CITY OF HARTFORD

} SS.

Morgan R. Haze, Vice President and Controller, and Allen R. Craig, Assistant Secretary of the Hartford Fire Insurance Company, being duly sworn, each deposes and say that the foregoing is a true and correct statement of the said company's financial condition as of June 30, 2016.

Subscribed and sworn to before me
this 1st day of September, 2016.

Laurie Hansen

Notary Public

LAURIE HANSEN
NOTARY PUBLIC
State of Connecticut
My Commission Expires
December 31, 2018

Morgan R. Haze
Vice President and Controller

Allen R. Craig
Assistant Secretary

POWER OF ATTORNEY

Direct Inquiries/Claims to:

THE HARTFORD

Bond T-12

One Hartford Plaza

Hartford, Connecticut 06155

Bond.Claims@thehartford.com

call: 888-266-3488 or fax: 860-757-5835)

Agency Code: SurePath

KNOW ALL PERSONS BY THESE PRESENTS THAT:

- ☒ Hartford Fire Insurance Company, a corporation duly organized under the laws of the State of Connecticut
☐ Hartford Casualty Insurance Company, a corporation duly organized under the laws of the State of Indiana
☐ Hartford Accident and Indemnity Company, a corporation duly organized under the laws of the State of Connecticut
☐ Hartford Underwriters Insurance Company, a corporation duly organized under the laws of the State of Connecticut
☐ Twin City Fire Insurance Company, a corporation duly organized under the laws of the State of Indiana
☐ Hartford Insurance Company of Illinois, a corporation duly organized under the laws of the State of Illinois
☐ Hartford Insurance Company of the Midwest, a corporation duly organized under the laws of the State of Indiana
☐ Hartford Insurance Company of the Southeast, a corporation duly organized under the laws of the State of Florida

having their home office in Hartford, Connecticut (hereinafter collectively referred to as the "Companies") do hereby make, constitute and appoint

William D. Haas of White Plains, NY

their true and lawful Attorney-in-Fact, to sign its name as surety(ies) only as delineated above by ☒, and to execute, seal and acknowledge the following bond, undertaking, contract or written instrument:

Bond No. 39BCSGO1476

on behalf of KNIGHTSBRIDGE CONSTRUCTION CORP.

naming

City of New York

as Obligatee in the amount of See Bond Form

on behalf of the Companies in their business of guaranteeing the fidelity of persons, guaranteeing the performance of contracts and executing or guaranteeing bonds and undertakings required or permitted in any actions or proceedings allowed by law.

In Witness Whereof, and as authorized by a Resolution of the Board of Directors of the Companies on May 6, 2015 the Companies have caused these presents to be signed by its Senior Vice President and its corporate seals to be hereto affixed, duly attested by its Assistant Secretary. Further, pursuant to Resolution of the Board of Directors of the Companies, the Companies hereby unambiguously affirm that they are and will be bound by any mechanically applied signatures applied to this Power of Attorney.



John Gray

John Gray, Assistant Secretary

M. Ross Fisher

M. Ross Fisher, Senior Vice President

STATE OF CONNECTICUT

COUNTY OF HARTFORD

ss. Hartford

On this 11th day of January, 2016, before me personally came M. Ross Fisher, to me known, who being by me duly sworn, did depose and say: that he resides in the County of Hartford, State of Connecticut; that he is the Senior Vice President of the Companies, the corporations described in and which executed the above instrument; that he knows the seals of the said corporations; that the seals affixed to the said instrument are such corporate seals; that they were so affixed by authority of the Boards of Directors of said corporations and that he signed his name thereto by like authority.



CERTIFICATE

Kathleen T. Maynard

Kathleen T. Maynard
Notary Public

My Commission Expires July 31, 2021

I, the undersigned, Assistant Vice President of the Companies, DO HEREBY CERTIFY that the above and foregoing is a true and correct copy of the Power of Attorney executed by said Companies, which is still in full force effective as of April 21, 2017

Signed and sealed at the City of Hartford.



Kevin Heckman

Kevin Heckman, Assistant Vice President

PAYMENT BOND (Pg.1)

KNOW ALL MEN BY THESE PRESENTS, That we, _____

KNIGHTSBRIDGE CONSTRUCTION CORP.

33 GREAT NECK ROAD, GREAT NECK, NY 11021

hereinafter referred to as the "Principal" and _____

Hartford Fire Insurance Company

One Hartford Plaza, Hartford, CT 06155-0001

hereinafter referred to as the "Surety" ("Sureties") are held and firmly bound to THE CITY OF NEW YORK, hereinafter referred to as the "City" or to its successors and assigns, in the penal sum of:

Two Million Seven Hundred Eleven Thousand Dollars and 00/100 Dollars,

(\$ 2,711,000.00) lawful money of the United States, for the payment of which said sum of money well and truly to be made, we, and each of us, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal is about to enter, or has entered, into a Contract in writing with the City for:

FMS ID: CO277ELV2 - DDC PIN: 8502016C0T0015C - COURT SQUARE COURTHOUSE

ELEVATOR MODERNIZATION AND UPGRADES/QUEENS

a copy of which Contract is annexed to and hereby made a part of this bond as though herein set forth in full.

PAYMENT BOND (Pg.2)

NOW, THEREFORE, the conditions of this obligation are such that if the Principal, his or its representatives or assigns and other Subcontractors to whom Work under this Contract is sublet and his or their successors and assigns shall promptly pay or cause to be paid all lawful claims for:

- (a) Wages and compensation for labor performed and services rendered by all persons engaged in the prosecution of the Work under said Contract, and any amendment or extension thereof or addition thereto, whether such persons be agents, servants or employees of the Principal or of any such Subcontractors, including all persons so engaged who perform the work of laborers or mechanics at or in the vicinity of the site of the Project regardless of any Contractual relationship between the Principal or such Subcontractors, or his or their successors or assigns, on the one hand and such laborers or mechanics on the other, but not including office employees not regularly stationed at the site of the Project, and
- (b) Materials and supplies (whether incorporated in the permanent construction or not), as well as teams, fuels, oils, implements or machinery furnished, used or consumed by said Principal or any Subcontractors at or in the vicinity of the site of the Project in the prosecution of the Work under said Contract and any amendment or extension thereof or addition thereto; then this obligation shall be null and void; otherwise to remain in full force and effect.

This bond is subject to the following additional conditions, limitations and agreements:

- (a) The Principal and Surety (Sureties) agree that this bond shall be for the benefit of any materialman or laborer having a just claim, as well as the City itself.
- (b) All persons who have performed labor, rendered services or furnished materials and supplies, as aforesaid, shall have a direct right of action against the Principal and his, its or their successors and assigns, and the Surety (Sureties) herein, or against either or both or any of them and their successors and assigns. Such persons may sue in their own name, and may prosecute the suit to judgment and execution without the necessity of joining with any other person as party plaintiff.
- (c) The Principal and Surety (Sureties) agree that neither of them will hold the City liable for any judgment for costs or

PAYMENT BOND (Pg.3)

otherwise, obtained against either or both of them by a laborer or materialman in a suit brought by either a laborer or materialman under this bond for moneys allegedly due for performing work or furnishing material.

(d) The Surety (Sureties) or its successors and assigns shall not be liable for any compensation recoverable by an employee or laborer under the Workmen's Compensation Law.

(e) In no event shall the Surety (Sureties), or its successors or assigns, be liable for a greater sum than the penalty of this bond or be subject to any suit, action or proceeding hereon that is instituted by any person, firm, or corporation hereunder later than two (2) years after the complete performance of said Contract and final settlement thereof.

The Principal, for himself and his successors and assigns, and the Surety (Sureties), for itself and its successors and assigns, do hereby expressly waive any objection that might be interposed as to the right of the City to require a bond containing the foregoing provisions, and they do hereby further expressly waive any defense which they or either of them might interpose to an action brought hereon by any person, firm or corporation, including Subcontractors, materialmen and third persons, for work, labor, services, supplies or material performed, rendered, or furnished as aforesaid upon the ground that there is no law authorizing the City to require the foregoing provisions to be placed in this bond.

And the Surety (Sureties) for value received, for itself and its successors and assigns, hereby stipulates and agrees that the obligation of said Surety (Sureties) and its bond shall be in no way impaired or affected by any extension of time, modification, omission, addition, or change in or of the said Contract or the Work to be performed thereunder, or by any payment thereunder before the time required therein, or by any waiver of any provisions thereof, or by any assignment, subletting or other transfer thereof or of any part thereof, or of any Work to be performed, or any moneys due or to become due thereunder; and said Surety (Sureties) does hereby waive notice of any and all of such extensions, modifications, omissions, additions, changes, payments, waivers, assignments, subcontracts and transfers, and hereby expressly stipulates and agrees that any and all things done and omitted to be done by and in relation to assignees, Subcontractors, and other transferees shall have the same effect as to said Surety (Sureties) as though done or omitted to be done by or in relation to said Principal.

PAYMENT BOND (Pg.4)

IN WITNESS WHEREOF, the Principal and the Surety (Sureties) have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereunto affixed and these presents to be signed by their proper officers,

this 21st day of April, 2017

(SEAL)

KNIGHTSBRIDGE CONSTRUCTION CORP. (L.S.)

Principal

By:

Jeffrey Sadowsky, PRES

(SEAL)

Hartford Fire Insurance Company

Surety

By:

William D. Haas

Attorney-in-Fact



Surety

By:

(SEAL)

Surety

By:

(SEAL)

Surety

By:

BOND PREMIUM RATE: _____

BOND PREMIUM COST: \$35,610.00

If the Contractor (Principal) is a partnership, the bond should be signed by each of the individuals who are partners. If the Contractor (Principal) is a corporation, the bond should be signed in its correct corporate name by a duly authorized officer, agent, or attorney-in-fact. There should be executed an appropriate member of counterparts of the bond corresponding to the number of counterparts of the Contract.

PAYMENT BOND (Pg.5)

ACKNOWLEDGMENT OF PRINCIPAL - IF A CORPORATION

State of New York County of NASSAU ss.:

On this 25th day of April, 2017,

before me personally came Jeffrey Sadowsky

to me known, who, being by me duly sworn did depose and say that he resides
at Great Neck, NY

that he is the Pres of Knightbridge Construction Corp

the corporation described in and which executed the foregoing instrument; that he knows
the seal of said corporation; that one of the seals affixed to said instrument is such seal; that
it was so affixed by order of the directors of said corporation, and that he signed his name
thereto by like order.

Manjusha Wadhera

Notary Public

MANJUSHA WADHERA
Notary Public - State of New York
No. 01WA6292637
Qualified in Nassau County
My Commission Expires Nov. 04, 2017

ACKNOWLEDGMENT OF PRINCIPAL - IF A PARTNERSHIP

State of _____ County of _____ ss.:

On this _____ day of _____,

before me personally appeared _____

to me known and known to me to be one of the members of the firm of:

described in and who executed the foregoing instrument and he acknowledged to me that he
executed the same as and for the act and deed of said firm.

Notary Public

ADDITIONAL INFORMATION
NOT TO BE USED - ONLY FOR
TECHNICAL USE
PLEASE REPORT TO THE
FBI AT THE EARLIEST OPPORTUNITY

PAYMENT BOND (Pg.6)

ACKNOWLEDGMENT OF PRINCIPAL - IF AN INDIVIDUAL

State of _____ County of _____ SS.:

On this _____ day of _____, _____ before me

personally appeared _____ known to me to be the person described in and who executed the foregoing instrument and acknowledged that he executed the same.

Notary Public

Each executed bond should be accompanied by:

- (a) appropriate acknowledgments of the respective parties;
- (b) appropriate duly certified copy of Power of Attorney or other certificate of authority where bond is executed by agent, officer or other representative of Principal or Surety;
- (c) a duly certified extract from by-laws or resolutions of Surety under which Power of Attorney or other certificate of authority of its agent, officer or representative was issued, and
- (d) a duly certified copy of latest published financial statement of assets and liabilities of Surety.

AFFIX ACKNOWLEDGMENTS AND JUSTIFICATIONS OF SURETIES

BOND

BOND

ACKNOWLEDGMENT BY SURETY COMPANY
(Signed by One Authorized Person)

STATE OF NEW YORK)
) ss.:
COUNTY OF WESTCHESTER)

On this 21st day of APRIL, 2017, before me personally came


WILLIAM D. HAAS to me known, and known to me to be the
(Name)

ATTORNEY-IN-FACT of HARTFORD FIRE INSURANCE COMPANY,
(Title) (Name of Corporation)

the Corporation described in and which executed the within instrument, who being by me duly
sworn did depose and say that he/she resides at RYE, NEW YORK

_____ and that he/she is the ATTORNEY-IN-FACT of said Corporation
(Title)

and knows the Corporate Seal of the said Corporation; that the seal affixed to the within
instrument is such Corporate Seal and so affixed by order of the Board of Directors of said
Corporation and that he/she signed his/her name thereto by like order; and that the said
Corporation has received from the Superintendent of Insurance of the State of New York a
Certificate of Solvency, and of its sufficiency as Surety or Guarantor, pursuant to Section 327 of
the Insurance Law of the State of New York as amended, and that such Certificate has not been
revoked.


Notary Public

ALICE MCCARTHY
NOTARY PUBLIC, State of New York
No. 01MC5079342
Qualified in Dutchess County
Commission Expires June 02, 2019

HARTFORD FIRE INSURANCE COMPANY

Hartford, Connecticut
Financial Statement, June 30, 2016
Statutory Basis

ASSETS

U.S. Government Bonds	\$ 511,271,791
Bonds of Other Governments	143,805,859
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Miscellaneous Bonds	12,010,958,895
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	<u>\$ 18,683,761,126</u>
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Miscellaneous	3,042,353,045
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LIABILITIES

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and Claim Expense		7,690,472,270
Reserve for Unearned Premiums		2,163,378,783
Reserve for Taxes, License		
and Fees		55,987,906
Miscellaneous Liabilities		2,597,812,034
Total Liabilities	<u>\$</u>	<u>12,507,650,993</u>
Capital Paid In	\$	55,320,000
Surplus		13,039,135,608
Surplus as regards Policyholders	\$	13,094,455,608
Total Liabilities, Capital		
and Surplus	<u>\$</u>	<u>25,602,106,601</u>

STATE OF CONNECTICUT
COUNTY OF HARTFORD
CITY OF HARTFORD

} ss.

Morae R. Haze, Vice President and Controller, and Allen R. Craig, Assistant Secretary of the Hartford Fire Insurance Company, being duly sworn, each deposes and say that the foregoing is a true and correct statement of the said company's financial condition as of June 30, 2016.

Subscribed and sworn to before me
this 1st day of September, 2016

Laurie Hansen

Notary Public

LAURIE HANSEN
NOTARY PUBLIC
State of Connecticut
My Commission Expires
December 31, 2018

Morae R. Haze
Vice President and Controller

Allen R. Craig
Assistant Secretary

POWER OF ATTORNEY

Direct Inquiries/Claims to:

THE HARTFORD

Bond T-12

One Hartford Plaza

Hartford, Connecticut 06155

Bond.Claims@thehartford.com

call: 888-266-3488 or fax: 860-757-5835)

Agency Code: SurePath

NOW ALL PERSONS BY THESE PRESENTS THAT:

- ☒ Hartford Fire Insurance Company, a corporation duly organized under the laws of the State of Connecticut
☐ Hartford Casualty Insurance Company, a corporation duly organized under the laws of the State of Indiana
☐ Hartford Accident and Indemnity Company, a corporation duly organized under the laws of the State of Connecticut
☐ Hartford Underwriters Insurance Company, a corporation duly organized under the laws of the State of Connecticut
☐ Twin City Fire Insurance Company, a corporation duly organized under the laws of the State of Indiana
☐ Hartford Insurance Company of Illinois, a corporation duly organized under the laws of the State of Illinois
☐ Hartford Insurance Company of the Midwest, a corporation duly organized under the laws of the State of Indiana
☐ Hartford Insurance Company of the Southeast, a corporation duly organized under the laws of the State of Florida

having their home office in Hartford, Connecticut (hereinafter collectively referred to as the "Companies") do hereby make, constitute and appoint

William D. Haas of White Plains, NY

their true and lawful Attorney-in-Fact, to sign its name as surety(ies) only as delineated above by ☒, and to execute, seal and acknowledge the following bond, undertaking, contract or written instrument:

Bond No. 39BCSGO1476

on behalf of KNIGHTSBRIDGE CONSTRUCTION CORP.

naming

City of New York

as Obligee in the amount of See Bond Form

on behalf of the Companies in their business of guaranteeing the fidelity of persons, guaranteeing the performance of contracts and executing or guaranteeing bonds and undertakings required or permitted in any actions or proceedings allowed by law.

In Witness Whereof, and as authorized by a Resolution of the Board of Directors of the Companies on May 6, 2015 the Companies have caused these presents to be signed by its Senior Vice President and its corporate seals to be hereto affixed, duly attested by its Assistant Secretary. Further, pursuant to Resolution of the Board of Directors of the Companies, the Companies hereby unambiguously affirm that they are and will be bound by any mechanically applied signatures applied to this Power of Attorney.



John Gray

John Gray, Assistant Secretary

M. Ross Fisher

M. Ross Fisher, Senior Vice President

STATE OF CONNECTICUT

ss. Hartford

COUNTY OF HARTFORD

On this 11th day of January, 2016, before me personally came M. Ross Fisher, to me known, who being by me duly sworn, did depose and say: that he resides in the County of Hartford, State of Connecticut; that he is the Senior Vice President of the Companies, the corporations described in and which executed the above instrument; that he knows the seals of the said corporations; that the seals affixed to the said instrument are such corporate seals; that they were so affixed by authority of the Boards of Directors of said corporations and that he signed his name thereto by like authority.



Kathleen T. Maynard

Kathleen T. Maynard
Notary Public

My Commission Expires July 31, 2021

CERTIFICATE

I, the undersigned, Assistant Vice President of the Companies, DO HEREBY CERTIFY that the above and foregoing is a true and correct copy of the Power of Attorney executed by said Companies, which is still in full force effective as of April 21, 2017

Signed and sealed at the City of Hartford.



Kevin Heckman

Kevin Heckman, Assistant Vice President



CERTIFICATE OF LIABILITY INSURANCE

KNIGH-1 OP ID: MA

DATE (MM/DD/YYYY)

07/20/2017

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER ICS Agency, Inc. 310 Willis Avenue Mineola, NY 11501	CONTACT NAME: Eulampia Appelbaum PHONE (A/C, No, Ext): 516-248-9200 FAX (A/C, No): 516-248-9017 E-MAIL ADDRESS: eulampia@icsagency.com
INSURED Knightsbridge Construction Corp. 33 Great Neck Road Great Neck, NY 11021	INSURER(S) AFFORDING COVERAGE INSURER A: NEW YORK MARINE & GENERAL INS INSURER B: TRAVELERS CAS INS CO/AMERICA INSURER C: INSURER D: INSURER E: INSURER F:
	NAIC # 16608 19046

COVERAGES

CERTIFICATE NUMBER:

REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR <input checked="" type="checkbox"/> BLKT ADDL INSD <input checked="" type="checkbox"/> BLKT CONTRACTUAL GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC OTHER:	X		GL2017RLH00300	07/02/2017	07/02/2018	EACH OCCURRENCE \$ 2,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 100,000 MED EXP (Any one person) \$ 5,000 PERSONAL & ADV INJURY \$ 2,000,000 GENERAL AGGREGATE \$ 4,000,000 PRODUCTS - COMP/OP AGG \$ 4,000,000 Emp Ben. \$ 1,000,000
B	AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> ANY AUTO ALL OWNED AUTOS <input checked="" type="checkbox"/> HIRED AUTOS <input type="checkbox"/> SCHEDULED AUTOS NON-OWNED AUTOS			BA1A05082017SEL	05/28/2017	05/28/2018	COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$
	UMBRELLA LIAB EXCESS LIAB DED RETENTION \$						EACH OCCURRENCE \$ AGGREGATE \$ PER STATUTE OTH-ER
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	Y/N	N/A				E.L. EACH ACCIDENT \$ E.L. DISEASE - EA EMPLOYEE \$ E.L. DISEASE - POLICY LIMIT \$

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

Re: Project - C0277ELV2 - Court Square Courthouse - Elevator Modernization & Upgrades -Location: 25-10 Court Square, Queens 11101.
The Following are included as an Additional Insureds: City of New York, including its officials and employees as per written contract with respect to ISO forms CG2010 & CG2037 included on the General Liability policy.

CERTIFICATE HOLDER

CANCELLATION

NYCDD&C NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION 30-30 THOMSON AVENUE, 4TH FL LONG ISLAND CITY, NY 11101	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE <i>Mont Appelbaum</i>
--	--

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SCHEDULE A (FOR PUBLICLY BID PROJECTS)

Relating to Article 22 - Insurance

PART III. Certification by Insurance Broker or Agent

The undersigned insurance broker or agent represents to the City of New York that the attached Certificate of Insurance is accurate in all material respects.

I.C.S. AGENCY, INC.

[Name of broker or agent (typewritten)]

310 WILLIS AVENUE, MINEOLA, NY 11501

[Address of broker or agent (typewritten)]

MORT@ICSAGENCY.COM

[Email address of broker or agent (typewritten)]

516-248-9200 / 516-248-9017

[Phone number/Fax number of broker or agent (typewritten)]



[Signature of authorized official or broker or agent]

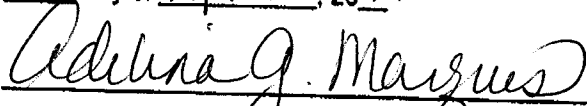
MORT APPELBAUM, PRESIDENT

[Name and title of authorized official, broker or agent (typewritten)]

State of New York,
County of Nassau) ss:

Sworn to before me this

21st day of April, 2017



NOTARY PUBLIC FOR THE STATE OF New York

ADELINA G. MARQUES
NOTARY PUBLIC, STATE OF NEW YORK
NO. 01MA6097640
QUALIFIED IN NASSAU COUNTY
MY COMMISSION EXPIRES AUGUST 25, 2019

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

**ADDITIONAL INSURED – OWNERS, LESSEES OR
CONTRACTORS – COMPLETED OPERATIONS**

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

SCHEDULE

Name of Person or Organization:

Any person or organization for whom you are performing operations when you and such person or organization have agreed in writing in a contract or agreement that such person or organization be added as an additional insured on your policy.

Location And Description of Completed Operations:

Additional Premium:

(If no entry appears above, information required to complete this endorsement will be shown in the Declarations as applicable to this endorsement.)

Section II -Who Is An Insured is amended to include as an insured the person or organization shown in the Schedule, but only with respect to liability arising out of "your work" at the location designated and described in the schedule of this endorsement performed for that insured and included in the "products-completed operations hazard".

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ADDITIONAL INSURED – OWNERS, LESSEES OR CONTRACTORS – SCHEDULED PERSON OR ORGANIZATION

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

SCHEDULE

Name Of Additional Insured Person(s) Or Organization(s):	Location(s) Of Covered Operations
Any person or organization for whom you are performing operations when you and such person or organization have agreed in writing in a contract or agreement that such person or organization be added as an additional insured on your policy.	
Information required to complete this Schedule, if not shown above, will be shown in the Declarations.	

A. Section II - Who Is An Insured is amended to include as an additional insured the person(s) or organization(s) shown in the Schedule, but only with respect to liability for "bodily injury", "property damage" or "personal and advertising injury" caused, in whole or in part, by:

1. Your acts or omissions; or
2. The acts or omissions of those acting on your behalf;

in the performance of your ongoing operations for the additional insured(s) at the location(s) designated above.

B. With respect to the insurance afforded to these additional insureds, the following additional exclusions apply:

This insurance does not apply to "bodily injury" or "property damage" occurring after:

1. All work, including materials, parts or equipment furnished in connection with such work, on the project (other than service, maintenance or repairs) to be performed by or on behalf of the additional insured(s) at the location of the covered operations has been completed; or
2. That portion of "your work" out of which the injury or damage arises has been put to its intended use by any person or organization other than another contractor or subcontractor engaged in performing operations for a principal as a part of the same project.



New York State Insurance Fund

Workers' Compensation & Disability Benefits Specialists Since 1914

8 CORPORATE CENTER DR, 2ND FLR, MELVILLE, NEW YORK 11747-3166

CERTIFICATE OF WORKERS' COMPENSATION INSURANCE (RENEWED)

***** 112857837

KNIGHTSBRIDGE CONSTRUCTION CORP
33 GREAT NECK ROAD
GREAT NECK NY 11021



Scan to Validate

POLICYHOLDER

KNIGHTSBRIDGE CONSTRUCTION CORP
33 GREAT NECK ROAD
GREAT NECK NY 11021

CERTIFICATE HOLDER

NYC DEPT OF DESIGN &
CONSTRUCTION
30-30 THOMSON AVE, 4TH FLOOR
LONG ISLAND CITY NY 11101

POLICY NUMBER	CERTIFICATE NUMBER	POLICY PERIOD	DATE
H1150 833-0	642303	06/19/2017 TO 06/19/2018	7/21/2017

THIS IS TO CERTIFY THAT THE POLICYHOLDER NAMED ABOVE IS INSURED WITH THE NEW YORK STATE INSURANCE FUND UNDER POLICY NO. 1150 833-0, COVERING THE ENTIRE OBLIGATION OF THIS POLICYHOLDER FOR WORKERS' COMPENSATION UNDER THE NEW YORK WORKERS' COMPENSATION LAW WITH RESPECT TO ALL OPERATIONS IN THE STATE OF NEW YORK, EXCEPT AS INDICATED BELOW.

IF YOU WISH TO RECEIVE NOTIFICATIONS REGARDING SAID POLICY, INCLUDING ANY NOTIFICATION OF CANCELLATIONS, OR TO VALIDATE THIS CERTIFICATE, VISIT OUR WEBSITE AT [HTTPS://WWW.NYSIF.COM/CERT/CERTVAL.ASP](https://www.nysif.com/cert/certval.asp), THE NEW YORK STATE INSURANCE FUND IS NOT LIABLE IN THE EVENT OF FAILURE TO GIVE SUCH NOTIFICATIONS.

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS NOR INSURANCE COVERAGE UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICY.

NEW YORK STATE INSURANCE FUND

DIRECTOR, INSURANCE FUND UNDERWRITING

VALIDATION NUMBER: 705796768



**Workers'
Compensation
Board**

**CERTIFICATE OF INSURANCE COVERAGE
UNDER THE NYS DISABILITY BENEFITS LAW**

PART 1. To be completed by Disability Benefits Carrier or Licensed Insurance Agent of that Carrier

1a. Legal Name and Address of Insured (Use street address only)

**KNIGHTSBRIDGE CONSTRUCTION CORP.
33 GREAT NECK ROAD
GREAT NECK, NY 11021**

Work Location of Insured (Only required if coverage is specifically limited to certain locations in New York State, i.e., a Wrap-Up Policy)

1b. Business Telephone Number of Insured
516-482-2416

1c. NYS Unemployment Insurance Employer Registration Number of Insured
PENDING

1d. Federal Employer Identification Number of Insured or Social Security Number
112857837

2. Name and Address of the Entity Requesting Proof of Coverage (Entity Being Listed as the Certificate Holder)

**NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION
30-30 THOMSON AVENUE 4TH FLOOR
LONG ISLAND CITY NY 11101**

3a. Name of Insurance Carrier
HARTFORD LIFE AND ACCIDENT

3b. Policy Number of entity listed in box "1a":
LNK-810872

3c. Policy effective period:
01/01/2017 to 12/31/2017

4. Policy covers:

- a. ☒ All of the employer's employees eligible under the New York Disability Benefits Law
b. ☐ Only the following class or classes of the employer's employees:

Under penalty of perjury, I certify that I am an authorized representative or licensed agent of the insurance carrier referenced above and that the named insured has NYS Disability Benefits insurance coverage as described above.

Emily Perreault

Date Signed 2/14/2017

By _____

(Signature of insurance carrier's authorized representative or NYS Licensed Insurance Agent of that insurance carrier)

Telephone Number (800) 454-7020 Title Manager

IMPORTANT: If box "4a" is checked, and this form is signed by the insurance carrier's authorized representative or NYS Licensed Insurance Agent of that carrier, this certificate is **COMPLETE**. Mail it directly to the certificate holder.

If box "4b" is checked, this certificate is **NOT COMPLETE** for purposes of Section 220, Subd. 8 of the Disability Benefits Law. It must be mailed for completion to the Workers' Compensation Board, DB Plans Acceptance Unit, 328 State Street, Schenectady, New York 12207.

PART 2. To be completed by NYS Workers' Compensation Board (Only if box "4b" of Part 1 has been checked)

**State Of New York
Workers' Compensation Board**

According to information maintained by the NYS Workers' Compensation Board, the above-named employer has complied with the NYS Disability Benefits Law with respect to all of his/her employees.

Date Signed _____

By _____

(Signature of NYS Workers' Compensation Board Employee)

Telephone Number _____

Title _____

Please Note: Only insurance carriers licensed to write NYS disability benefits insurance policies and NYS licensed insurance agents of those insurance carriers are authorized to issue Form DB-120.1. **Insurance brokers are NOT authorized to issue this form.**

Additional Instructions for Form DB-120.1

By signing this form, the insurance carrier identified in box "3" on this form is certifying that it is insuring the business referenced in box "1a" for disability benefits under the New York State Disability Benefits Law. The Insurance Carrier or its licensed agent will send this Certificate of Insurance to the entity listed as the certificate holder in box "2".

Will the carrier notify the certificate holder within 10 days of a policy being cancelled for non-payment of premium or within 30 days if cancelled for any other reason or if the insured is otherwise eliminated from the coverage indicated on this certificate prior to the end of the policy effective period? YES NO
--

This certificate is issued as a matter of information only and confers no rights upon the certificate holder. This certificate does not amend, extend or alter the coverage afforded by the policy listed, nor does it confer any rights or responsibilities beyond those contained in the referenced policy.

This certificate may be used as evidence of a Disability Benefits contract of insurance only while the underlying policy is in effect.

Please Note: Upon the cancellation of the disability benefits policy indicated on this form, if the business continues to be named on a permit, license or contract issued by a certificate holder, the business must provide that certificate holder with a new Certificate of NYS Disability Benefits Coverage or other authorized proof that the business is complying with the mandatory coverage requirements of the New York State Disability Benefits Law.

DISABILITY BENEFITS LAW

§220. Subd. 8

(a) The head of a state or municipal department, board, commission or office authorized or required by law to issue any permit for or in connection with any work involving the employment of employees in employment as defined in this article, and notwithstanding any general or special statute requiring or authorizing the issue of such permits, shall not issue such permit unless proof duly subscribed by an insurance carrier is produced in a form satisfactory to the chair, that the payment of disability benefits for all employees has been secured as provided by this article. Nothing herein, however, shall be construed as creating any liability on the part of such state or municipal department, board, commission or office to pay any disability benefits to any such employee if so employed.

(b) The head of a state or municipal department, board, commission or office authorized or required by law to enter into any contract for or in connection with any work involving the employment of employees in employment as defined in this article and notwithstanding any general or special statute requiring or authorizing any such contract, shall not enter into any such contract unless proof duly subscribed by an insurance carrier is produced in a form satisfactory to the chair, that the payment of disability benefits for all employees has been secured as provided by this article.

Performance Bond #1 (Pages 90 to 93): Use if the total contract price is \$5 Million Or Less. Performance Bond #1 has been approved by the U.S. Small Business Administration ("SBA") for participation in its Bond Guarantee Program.

PERFORMANCE BOND #1 (Page 2)

NOW, THEREFORE, the conditions of this obligation are such that if the Principal, his or its representatives or assigns, shall well and faithfully perform the said Contract and all modifications, amendments, additions and alterations thereto that may hereafter be made, according to its terms and its true intent and meaning, including repair and or replacement of defective work and guarantees of maintenance for the periods stated in the Contract, and shall fully indemnify and save harmless the City from all cost and damage which it may suffer by reason of the Principal's default of the Contract, and shall fully reimburse and repay the City for all outlay and expense which the City may incur in making good any such default and shall protect the said City of New York against, and pay any and all amounts, damages, cost and judgments which may or shall be recovered against said City or its officers or agents or which the said City of New York may be called upon to pay any person or corporation by reason of any damages arising or growing out of the Principal's default of the Contract, then this obligation shall be null and void, otherwise to remain in full force and effect.

The Surety (Sureties), for value received, hereby stipulates and agrees, upon written notice from the City that the City has determined that the Principal is in default of the Contract, to (1) pay the City the cost to complete the contract as determined by the City in excess of the balance of the Contract held by the City, plus any damages or costs to which the City is entitled, up to the full amount of the above penal sum, (2) fully perform and complete the Work to be performed under the Contract, pursuant to the terms, conditions, and covenants thereof, or (3) tender a completion Contractor that is acceptable to the City. The Surety (Sureties) further agrees, at its option, either to notify the City that it elects to pay the city the cost of completion plus any applicable damages and costs under option (1) above, or to commence and diligently perform the Work specified in the Contract, including physical site work, within twenty-five (25) business days after written notice thereof from the City and, if the Surety elects to fully perform and complete the Work, then to complete all Work within the time set forth in the Contract or such other time as agreed to between the City and Surety in accordance with the Contract. If the Surety elects to tender payment pursuant to (1) above, then the Surety shall tender such amount within fifteen (15) business days notification from the City of the cost of completion. The Surety and the City reserve all rights and defenses each may have against the other; provided, however, that the Surety expressly agrees that its reservation of rights shall not provide a basis for non-performance of its obligation to pay the City the cost of completion, to commence and complete all Work as provided herein, or to tender a completion contractor.

The Surety (Sureties), for value received, for itself and its successors and assigns, hereby stipulates and agrees that the obligation of said Surety (Sureties) and its bond shall be in no way impaired or affected by any extension of time, modification, omission, addition, or change in or to the said Contract or the Work to be performed thereunder, or by any payment thereunder before the time required therein, or by any waiver of any provisions thereof, or any moneys due or to become due thereunder; and said Surety (Sureties) does hereby waive notice of any and all of such extensions, modifications, omissions, additions, changes, payments, and waivers, and hereby expressly stipulates and agrees that any and all things done and omitted to be done by and in relation to subcontractors shall have the same effect as to said Surety (Sureties) as though done or omitted to be done by or in relation to said Principal. Notwithstanding the above, if the City makes payments to the Principal before the time required by the contract that in the aggregate exceed \$100,000 or 10% of the Contract price, whichever is less, and that have not become earned prior to the Principal being found to be in default, then all payments made to the Principal before the time required by the Contract shall be added to the remaining contract value available to be paid for the completion of the Contract as if such sums had not been paid to the Principal, but shall not provide a basis for non-performance of its obligation to pay the City the cost of completion, to commence and to complete all Work as provided herein, or to tender a completion contractor.

Performance Bond #1 (Pages 90 to 93): Use if the total contract price is \$5 Million Or Less. Performance Bond #1 has been approved by the U.S. Small Business Administration ("SBA") for participation in its Bond Guarantee Program.

PERFORMANCE BOND #1 (Page 3)

IN WITNESS WHEREOF, the Principal and the Surety (Sureties) have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereunto affixed and these presents to be signed by their proper officers, this _____ day of _____, _____.

(Seal) _____ (L.S.)
Principal

By: _____

(Seal) _____
Surety

By: _____

(Seal) _____
Surety

By: _____

(Seal) _____
Surety

By: _____

Bond Premium Rate _____

Bond Premium Cost _____

If the Contractor (Principal) is a partnership, the bond should be signed by each of the individuals who are partners.

If the Contractor (Principal) is a corporation, the bond should be signed in its correct corporate name by a duly authorized officer, agent, or attorney-in-fact.

There should be executed an appropriate number of counterparts of the bond corresponding to the number of counterparts of the Contract.

Performance Bond #1 (Pages 90 to 93): Use if the total contract price is \$5 Million Or Less. Performance Bond #1 has been approved by the U.S. Small Business Administration ("SBA") for participation in its Bond Guarantee Program.

PERFORMANCE BOND #1 (Page 4)

ACKNOWLEDGMENT OF PRINCIPAL, IF A CORPORATION

State of _____ County of _____ ss:

On this _____ day of _____, _____, before me personally came _____ to me known, who, being by me duly sworn did depose and say that he resides at _____ that he is the _____ of the corporation described in and which executed the foregoing instrument; that he knows the seal of said corporation; that one of the seals affixed to said instrument is such seal; that it was so affixed by order of the directors of said corporation, and that he signed his name thereto by like order.

Notary Public or Commissioner of Deeds

ACKNOWLEDGMENT OF PRINCIPAL, IF A PARTNERSHIP

State of _____ County of _____ ss:

On this _____ day of _____, _____ before me personally appeared _____ to me known, and known to me to be one of the members of the firm of _____ described in and who executed the foregoing instrument; and he acknowledged to me that he executed the same as and for the act and deed of said firm.

Notary Public or Commissioner of Deeds

ACKNOWLEDGMENT OF PRINCIPAL, IF AN INDIVIDUAL

State of _____ County of _____ ss:

On this _____ day of _____, _____ before me personally appeared _____ to me known, and known to me to be the person described in and who executed the foregoing instrument; and acknowledged that he executed the same.

Notary Public or Commissioner of Deeds

Each executed bond should be accompanied by: (a) appropriate acknowledgments of the respective parties; (b) appropriate duly certified copy of Power of Attorney or other certificate of authority where bond is executed by agent, officer or other representative of Principal or Surety; (c) a duly certified extract from By-Laws or resolutions of Surety under which Power of Attorney or other certificate of authority of its agent, officer or representative was issued, and (d) certified copy of latest published financial statement of assets and liabilities of Surety.

* * * * *

Affix Acknowledgments and Justification of Sureties

Performance Bond #2 (Pages 94 to 97): Use if the total contract price is more than \$5 Million.

PERFORMANCE BOND #2 (Page 1)

PERFORMANCE BOND #2

KNOW ALL PERSONS BY THESE PRESENTS, That we, _____

hereinafter referred to as the "Principal", and _____

hereinafter referred to as the "Surety" ("Sureties") are held and firmly bound to THE CITY OF NEW YORK, hereinafter referred to as the "City" or to its successors and assigns, in the penal sum of

(\$ _____) Dollars, lawful money of the United States, for the payment of which said sum of money well and truly to be made, we, and each of us, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal is about to enter, or has entered, into a Contract in writing with the City for

a copy of which Contract is annexed to and hereby made a part of this bond as though herein set forth in full;

NOW, THEREFORE, the conditions of this obligation are such that if the Principal, his or its representatives or assigns, shall well and faithfully perform the said Contract and all modifications, amendments, additions and alterations thereto that may hereafter be made, according to its terms and its true intent and meaning, including repair and or replacement of defective work and guarantees of maintenance for the periods stated in the Contract, and shall fully indemnify and save harmless the City from all cost and damage which it may suffer by reason of the Principal's default of the Contract, and shall fully reimburse and repay the City for all outlay and expense which the City may incur in making good any such default and shall protect the said City of New York against, and pay any and all amounts, damages, cost and judgments which may or shall be recovered against said City or its officers or agents or which the said City of New York may be called upon to pay any person or corporation by reason of any damages arising or growing out of the Principal's default of the Contract, then this obligation shall be null and void, otherwise to remain in full force and effect.

The Surety (Sureties), for value received, hereby stipulates and agrees, upon written notice from the City that the City has determined that the Principal is in default of the Contract, to either (1) pay the full amount of the above penal sum in complete discharge and exoneration of this bond and of all the liabilities of the Surety relating to this bond, or (2) fully perform and complete the Work to be performed under the Contract, pursuant to the terms, conditions, and covenants thereof. The Surety (Sureties) further agrees, at its option, either to tender the penal sum or to commence and diligently perform the Work specified in the Contract, including physical site work, within twenty-five (25) business days after written notice thereof from the City and to complete all Work within the time set forth in the Contract or such other time as agreed to between the City and Surety in accordance with the Contract. The Surety and the City reserve all rights and defenses each may have against the other; provided, however, that the Surety expressly agrees that its reservation of rights shall not provide a basis for non-performance of its obligation to commence and to complete all Work as provided herein.

The Surety (Sureties), for value received, for itself and its successors and assigns, hereby stipulates and agrees that the obligation of said Surety (Sureties) and its bond shall be in no way impaired or affected by any extension of time, modification, omission, addition, or change in or to the said Contract or the Work to be performed thereunder, or by any payment thereunder before the time required therein, or by any waiver of any provisions thereof, or by any assignment, subletting or other transfer thereof or of any Work to be performed or any moneys due or to become due thereunder; and said Surety (Sureties) does hereby waive notice of any and all of such extensions, modifications, omissions, additions, changes, payments, waivers, assignments, subcontracts and transfers, and hereby expressly stipulates and agrees that any and all things done and omitted to be done by and in relation to assignees, subcontractors, and other transferees shall have the same effect as to said Surety (Sureties) as though done or omitted to be done by or in relation to said Principal.

Performance Bond #2 (Pages 94 to 97): Use if the total contract price is more than \$5 Million.

PERFORMANCE BOND #2 (Page 3)

IN WITNESS WHEREOF, the Principal and the Surety (Sureties) have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereunto affixed and these presents to be signed by their proper officers, this _____ day of _____, _____.

(Seal) _____ (L.S.)
Principal

By: _____

(Seal) _____
Surety

By: _____

(Seal) _____
Surety

By: _____

(Seal) _____
Surety

By: _____

(Seal) _____
Surety

By: _____

(Seal) _____
Surety

Bond Premium Rate _____

Bond Premium Cost _____

If the Contractor (Principal) is a partnership, the bond should be signed by each of the individuals who are partners.

If the Contractor (Principal) is a corporation, the bond should be signed in its correct corporate name by a duly authorized officer, agent, or attorney-in-fact.

There should be executed an appropriate number of counterparts of the bond corresponding to the number of counterparts of the Contract.

ACKNOWLEDGMENT OF PRINCIPAL, IF A CORPORATION

State of _____ County of _____ ss:

On this _____ day of _____, 20____ before me personally came _____
to me known, who, being by me duly sworn did depose and say that he/she resides at _____
_____ ; that he/she is the _____ of _____ the
corporation described in and which executed the foregoing instrument; and that he signed his name to the foregoing
instrument by order of the directors of said corporation as the duly authorized and binding act thereof.

Notary Public or Commissioner of Deeds

ACKNOWLEDGMENT OF PRINCIPAL, IF A PARTNERSHIP

State of _____ County of _____ ss:

On this _____ day of _____, 20____ before me personally came _____
to me known, who, being by me duly sworn did depose and say that he/she resides at _____
_____ ; that he/she is _____ partner of
_____, a limited/general partnership existing under the laws of the State of _____
the partnership described in and which executed the foregoing instrument; and that he/she signed his/her name to the
foregoing instrument as the duly authorized and binding act of said partnership.

Notary Public or Commissioner of Deeds

ACKNOWLEDGMENT OF PRINCIPAL, IF AN INDIVIDUAL

State of _____ County of _____ ss:

On this _____ day of _____, 20____ before me personally came _____
to me known, who, being by me duly sworn did depose and say that he/she resides at _____
_____, and that he/she is the individual whose name is subscribed to
the within instrument and acknowledged to me that by his/her signature on the instrument, said individual executed
the instrument.

Notary Public or Commissioner of Deeds

Each executed bond should be accompanied by: (a) appropriate acknowledgments of the respective parties;
(b) appropriate duly certified copy of Power of Attorney or other certificate of authority where bond is executed by
agent, officer or other representative of Principal or Surety; (c) a duly certified extract from By-Laws or resolutions
of Surety under which Power of Attorney or other certificate of authority of its agent, officer or representative was
issued, and (d) certified copy of latest published financial statement of assets and liabilities of Surety.

* * * * *

Affix Acknowledgments and Justification of Sureties.

Payment Bond (Pages 98 to 101): Use for any contract for which a Payment Bond is required.

PAYMENT BOND (Page 1)

PAYMENT BOND

KNOW ALL PERSONS BY THESE PRESENTS, That we, _____

hereinafter referred to as the "Principal", and _____

hereinafter referred to as the "Surety" ("Sureties") are held and firmly bound to THE CITY OF NEW YORK, hereinafter referred to as the "City" or to its successors and assigns, in the penal sum of

(\$ _____) Dollars, lawful money of the United States, for the payment of which said sum of money well and truly to be made, we, and each of us, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal is about to enter, or has entered, into a Contract in writing with the City for

a copy of which Contract is annexed to and hereby made a part of this bond as though herein set forth in full;

NOW, THEREFORE, the conditions of this obligation are such that if the Principal, his or its representatives or assigns and other Subcontractors to whom Work under this Contract is sublet and his or their successors and assigns shall promptly pay or cause to be paid all lawful claims for

(a) Wages and compensation for labor performed and services rendered by all persons engaged in the prosecution of the Work under said Contract, and any amendment or extension thereof or addition thereto, whether such persons be agents servants or employees of the Principal or any such Subcontractor, including all persons so

Payment Bond (Pages 98 to 101): Use for any contract for which a Payment Bond is required.

PAYMENT BOND (Page 2)

engaged who perform the work of laborers or mechanics at or in the vicinity of the site of the Project regardless of any contractual relationship between the Principal or such Subcontractors, or his or their successors or assigns, on the one hand and such laborers or mechanics on the other, but not including office employees not regularly stationed at the site of the project; and

(b) Materials and supplies (whether incorporated in the permanent structure or not), as well as teams, fuels, oils, implements or machinery furnished, used or consumed by said Principal or any subcontractor at or in the vicinity of the site of the Project in the prosecution of the Work under said Contract and any amendment or extension thereof or addition thereto; then this obligation shall be void, otherwise to remain in full force and effect.

This bond is subject to the following additional conditions, limitations and agreements:

(a) The Principal and Surety (Sureties) agree that this bond shall be for the benefit of any materialmen or laborer having a just claim, as well as the City itself.

(b) All persons who have performed labor, rendered services or furnished materials and supplies, as aforesaid, shall have a direct right of action against the Principal and his, its or their successors and assigns, and the Surety (Sureties) herein, or against either or both or any of them and their successors and assigns. Such persons may sue in their own name, and may prosecute the suit to judgment and execution without the necessity of joining with any other persons as party plaintiff.

(c) The Principal and Surety (Sureties) agree that neither of them will hold the City liable for any judgment for costs of otherwise, obtained by either or both of them against a laborer or materialman in a suit brought by either a laborer or materialman under this bond for moneys allegedly due for performing work or furnishing material.

(d) The Surety (Sureties) or its successors and assigns shall not be liable for any compensation recoverable by an employee or laborer under the Workmen's Compensation Law.

(e) In no event shall the Surety (Sureties), or its successors or assigns, be liable for a greater sum than the penalty of this bond or be subject to any suit, action or proceeding hereon that is instituted by any person, firm, or corporation hereunder later than two years after the complete performance of said Contract and final settlement thereof.

The Principal, for himself and his successors and assigns, and the Surety (Sureties), for itself and its successors and assigns, do hereby expressly waive any objection that might be interposed as to the right of the City to require a bond containing the foregoing provisions, and they do hereby further expressly waive any defense which they or either of them might interpose to an action brought hereon by any person, firm or corporation, including subcontractors, materialmen and third persons, for work, labor, services, supplies or material performed rendered, or furnished as aforesaid upon the ground that there is no law authorizing the City to require the foregoing provisions to be placed in this bond.

And the Surety (Sureties), for value received, for itself and its successors and assigns, hereby stipulates and agrees that the obligation of said Surety (Sureties), and its bonds shall be in no way impaired or affected by any extension of time, modification, omission, addition, or change in or of the said Contract or the work to be performed thereunder, or by any payment thereunder before the time required therein, or by any waiver of any provisions thereof, or by any assignment, subletting or other transfer thereof or of any part thereof, or of any Work to be performed, or any moneys due to become due thereunder and said Surety (Sureties) does hereby waive notice of any and all of such extensions, modifications, omissions, additions, changes, payments, waivers, assignments, subcontracts and transfers, and hereby expressly stipulates and agrees that any and all things done and omitted to be done by and in relation to assignees, Subcontractors, and other transferees shall have the same effect as to said Surety (Sureties) as though done or omitted to be done or in relation to said Principal.

Payment Bond (Pages 98 to 101): Use for any contract for which a Payment Bond is required.

PAYMENT BOND (Page 3)

IN WITNESS HEREOF, the Principal and the Surety (Sureties) have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereunto affixed and these presents to be signed by their proper officers, this _____ day of _____, _____.

(Seal) _____ (L.S.)
Principal

By: _____

(Seal) _____
Surety

By: _____

(Seal) _____
Surety

By: _____

(Seal) _____
Surety

By: _____

(Seal) _____
Surety

By: _____

If the Contractor (Principal) is a partnership, the bond should be signed by each of the individuals who are partners.

If the Contractor (Principal) is a corporation, the bond should be signed in its correct corporate name by a duly authorized officer, agent, or attorney-in-fact.

There should be executed an appropriate number of counterparts of the bond corresponding to the number of counterparts of the Contract.

Payment Bond (Pages 98 to 101): Use for any contract for which a Payment Bond is required.

PAYMENT BOND (Page 4)

ACKNOWLEDGMENT OF PRINCIPAL, IF A CORPORATION

State of _____ County of _____ ss:

On this _____ day of _____, _____ before me personally came
to me known, who, being by me duly sworn did depose and say that he resides at
_____ that he is the _____ of the
corporation described in and which executed the foregoing instrument; that he knows the seal of said corporation;
that one of the seals affixed to said instrument is such seal; that it was so affixed by order of the directors of said
corporation, and that he signed his name thereto by like order.

Notary Public or Commissioner of Deeds

ACKNOWLEDGMENT OF PRINCIPAL, IF A PARTNERSHIP

State of _____ County of _____ ss:

On this _____ day of _____, _____ before me personally appeared
to me known, and known to me to be one of the members of the firm of
_____ described in and who executed the foregoing instrument; and he acknowledged to
me that he executed the same as and for the act and deed of said firm.

Notary Public or Commissioner of Deeds

ACKNOWLEDGMENT OF PRINCIPAL, IF AN INDIVIDUAL

State of _____ County of _____ ss:

On this _____ day of _____, _____ before me personally appeared
to me known, and known to me to be the person described in and who executed the foregoing instrument; and
acknowledged that he executed the same.

Notary Public or Commissioner of Deeds

Each executed bond should be accompanied by: (a) appropriate acknowledgments of the respective parties;
(b) appropriate duly certified copy of Power of Attorney or other certificate of authority where bond is executed by
agent, officer or other representative of Principal or Surety; (c) a duly certified extract from By-Laws or resolutions
of Surety under which Power of Attorney or other certificate of authority of its agent, officer or representative was
issued, and (d) certified copy of latest published financial statement of assets and liabilities of Surety.

* * * * *

Affix Acknowledgments and Justification of Sureties

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**OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE**

LABOR LAW §220 PREVAILING WAGE SCHEDULE

Workers, Laborers and Mechanics employed on a public work project must receive not less than the prevailing rate of wage and benefits for the classification of work performed by each upon such public work. Pursuant to Labor Law §220 the Comptroller of the City of New York has promulgated this schedule solely for Workers, Laborers and Mechanics engaged by private contractors on New York City public work contracts.

This schedule is a compilation of separate determinations of the prevailing rate of wage and supplements made by the Comptroller for each trade classification listed herein pursuant to New York State Labor Law section 220 (5). The source of the wage and supplement rates, whether a collective bargaining agreement, survey data or other, is listed at the end of each classification.

Agency Chief Contracting Officers should contact the Bureau of Labor Law's Classification Unit with any questions concerning trade classifications, prevailing rates or prevailing practices with respect to procurement on New York City public works contracts. Contractors are advised to review the Comptroller's Prevailing Wage Schedule before bidding on public works contracts. Contractors with questions concerning trade classifications, prevailing rates or prevailing practices with respect to public works contracts in the procurement stage must contact the contracting agency responsible for the procurement.

Any error as to compensation under the prevailing wage law or other information as to trade classification, made by the contracting agency in the contract documents or in any other communication, will not preclude a finding against the contractor of prevailing wage violation.

Any questions concerning trade classifications, prevailing rates or prevailing practices on New York City public works contracts that have already been awarded may be directed to the Bureau of Labor Law's Classification Unit by calling (212) 669-7974. All callers must have the agency name and contract registration number available when calling with questions on public works contracts. Please direct all other compliance issues to: Bureau of Labor Law, Attn: Wasyl Kinach, P.E., Office of the Comptroller, 1 Centre Street, Room 1122, New York, N.Y. 10007; Fax (212) 669-4002.

The appropriate schedule of prevailing wages and benefits must be posted at all public work sites pursuant to Labor Law §220 (3-a) (a).

This schedule is applicable to work performed during the effective period, unless otherwise noted. Changes to this schedule are published on our web site www.comptroller.nyc.gov. Contractors must pay the wages and supplements in effect when the worker, laborer, mechanic performs the work. Preliminary schedules for future one-year periods appear in the City Record on or about June 1 each succeeding year. Final schedules appear on or about July 1 in the City Record and on our web site www.comptroller.nyc.gov.

The Comptroller's Office has attempted to include all overtime, shift and night differential, Holiday, Saturday, Sunday or other premium time work. However, this schedule does not set forth every prevailing practice with respect to such rates with which employers must comply. All such practices are nevertheless part of the employer's prevailing wage obligation and contained in the collective bargaining agreements of the prevailing wage unions. These collective bargaining agreements are available for inspection by appointment. Requests for appointments may be made by calling (212) 669-4443, Monday through Friday between the hours of 9 a.m. and 5 p.m.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

Prevailing rates and ratios for apprentices are attached to this schedule in the Appendix. Pursuant to Labor Law §220 (3-e), only apprentices who are individually registered in a bona fide program to which the employer contractor is a participant, registered with the New York State Department of Labor, may be employed on a public work project. Workers who are not journey persons or not registered apprentices pursuant to Labor Law §220 (3-e) may not be substituted for apprentices and must be paid as journey persons.

Public Work construction, reconstruction, demolition, excavation, rehabilitation, repair, renovation, alteration, or improvement contracts awarded pursuant to a Project Labor Agreement ("PLA") in accordance with Labor Law section 222 may have different labor standards for shift, premium and overtime work. Please refer to the PLA's pre-negotiated labor agreements for wage and benefit rates applicable to work performed outside of the regular workday. More information is available at the Mayor's Office of Contract Services (MOCS) web page at <http://www.nyc.gov/html/mocs/html/vendors/pla.shtml>.

All the provisions of Labor Law section 220 remain applicable to PLA work including, but not limited to, the enforcement of prevailing wage requirements by the Comptroller; however, we will enforce shift, premium, overtime and other non-standard rates as they appear in a project's pre-negotiated labor agreement.

In order to meet their obligation to provide prevailing supplemental benefits to each covered employee, employers must either:

- 1) Provide bona-fide benefits which cost the employer no less than the prevailing supplemental benefits rate; or
- 2) Supplement the employee's hourly wage by an amount no less than the prevailing supplemental benefits rate; or
- 3) Provide a combination of bona-fide benefits and wage supplements which cost the employer no less than the prevailing supplemental benefits rate in total.

Particular attention should be given to the supplemental benefits requirement. Although in most instances the payment or provision for supplemental benefits is for each hour worked, some classifications require the payment or provision of supplemental benefits for each hour paid. Consequently, some prevailing practices require benefits to be purchased at the overtime, shift differential, Holiday, Saturday, Sunday or other premium time rate.

Benefits are paid for EACH HOUR WORKED unless otherwise noted.

Wasył Kinach, P.E.
Director of Classifications
Bureau of Labor Law

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§220 PREVAILING WAGE SCHEDULE

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OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

ASBESTOS HANDLER

(Hazardous Material; Disturbs, removes, encapsulates, repairs, or encloses friable asbestos material)

Asbestos Handler

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: **\$36.00**

Supplemental Benefit Rate per Hour: **\$15.95**

Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Sunday.

Time and one half the regular hourly rate after 40 hours in any work week.

Overtime Holidays

Time and one half the regular rate for work on the following holiday(s).

New Year's Day

Good Friday

Memorial Day

Independence Day

Labor Day

Thanksgiving Day

Christmas Day

Easter

Paid Holidays

None

(Local #78 and Local #12A)

BLASTER

Blaster

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: **\$46.89**

Supplemental Benefit Rate per Hour: **\$41.19**

Blaster (Hydraulic)

Effective Period: 7/1/2015 - 6/30/2016

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
\$220 PREVAILING WAGE SCHEDULE

Wage Rate per Hour: \$47.71

Supplemental Benefit Rate per Hour: \$41.19

Blaster - Trac Drill Hydraulic

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$42.25

Supplemental Benefit Rate per Hour: \$41.19

Blaster - Wagon: Air Trac: Quarry Bar: Drillrunners

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$41.46

Supplemental Benefit Rate per Hour: \$41.19

Blaster - Operators of Jack Hammers

Chippers: Spaders: Concrete Breakers: and all other pneumatic tools of like usage: Walk Behind Self Propelled Hydraulic Asphalt and Concrete Breakers: Hydro (Water) Demolition

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$40.42

Supplemental Benefit Rate per Hour: \$41.19

Blaster - Powder Carriers

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$36.53

Supplemental Benefit Rate per Hour: \$41.19

Blaster - Hydraulic Trac Drill Chuck Tender

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$35.25

Supplemental Benefit Rate per Hour: \$41.19

Blaster - Chuck Tender & Nipper

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$34.50

Supplemental Benefit Rate per Hour: \$41.19

Blaster - Magazine Keepers: (Watch Person)

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$20.68

Supplemental Benefit Rate per Hour: \$41.19

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

Overtime Description

Magazine Keepers:

Time and one half for work performed in excess of forty (40) hours per week and for work performed on Saturdays, Sundays and Holidays.

All Other Employees:

Time and one-half for the first eight hours of work on Saturday and for Make-up Time. Double time for all hours over eight Monday through Friday (except make-up hours) and for all hours worked on Sunday and Holidays.

Overtime

Double time the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Presidential Election Day

Thanksgiving Day

Christmas Day

Paid Holidays

None

Shift Rates

A single shift shall be 8 hours plus an unpaid lunch, starting at 8:00 A.M (or between 6:00 A.M. and 10:00 A.M. on weekdays). When two (2) shifts are employed, each shift shall be 8 hours plus ½ hour unpaid lunch. When three (3) shifts are employed, each shift will work seven and one-half (7 ½) hours, but will be paid for eight (8) hours, since only one-half (½) hour is allowed for mealtime. When two (2) or more shifts are employed, single time will be paid for each shift. The first 8 hours of any and all work performed Monday through Friday inclusive of any off-shift shall be at the single time rate.

(Local #29)

BOILERMAKER

Boilermaker

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$51.56

Supplemental Benefit Rate per Hour: \$41.69

Supplemental Note: For time and one half overtime - \$61.94 For double overtime - \$82.18

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
\$220 PREVAILING WAGE SCHEDULE

Overtime Description

For Repair and Maintenance work:

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

For New Construction work:

Double time the regular rate after an 8 hour day.

Double time the regular time rate for Saturday.

Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day

President's Day

Memorial Day

Independence Day

Columbus Day

Election Day

Veteran's Day

Thanksgiving Day

Christmas Day

Quadruple time the regular rate for work on the following holiday(s).

Labor Day

Paid Holidays

Good Friday

Day after Thanksgiving

Day before Christmas

Day before New Year's Day

Shift Rates

When shifts are required, the first shift shall work eight (8) hours at the regular straight-time hourly rate. The second shift shall work seven and one-half (7 ½) hours and receive eight hours at the regular straight time hourly rate plus twenty-five cents (\$0.25) per hour. The third shift shall work seven (7) hours and receive eight hours at the regular straight time hourly rate plus fifty cents (\$0.50) per hour. A thirty (30) minute lunch period shall not be considered as time worked. Work in excess of the above shall be paid overtime at the appropriate new construction work or repair work overtime wage and supplemental benefit hourly rate.

(Local #5)

BRICKLAYER

Bricklayer

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$48.91

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

Supplemental Benefit Rate per Hour: \$28.03

Overtime

Time and one half the regular rate after a 7 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Saturday may be used as a make-up day at straight time when a day is lost during that week to inclement weather.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day

Memorial Day

Independence Day

Labor Day

Thanksgiving Day

Christmas Day

Paid Holidays

None

Shift Rates

Overtime rates to be paid outside the regular scheduled work day.

(Bricklayer District Council)

CARPENTER - BUILDING COMMERCIAL

Building Commercial

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$50.50

Supplemental Benefit Rate per Hour: \$45.88

Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Saturday may be used as a make-up day at straight time when a day is lost during that week to inclement weather.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day

Washington's Birthday

Memorial Day

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

Independence Day
Labor Day
Columbus Day
Presidential Election Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Paid Holidays

None

Shift Rates

The second shift will receive one hour at the double time rate of pay for the last hour of the shift; eight hours pay for seven hours of work, nine hours pay for eight hours of work. There must be a first shift in order to work a second shift.

(Carpenters District Council)

CARPENTER - HEAVY CONSTRUCTION WORK
(Construction of Engineering Structures and Building Foundations)

Heavy Construction Work

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$50.50

Supplemental Benefit Rate per Hour: \$46.65

Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Saturday may be used as a make-up day at straight time when a day is lost during that week to inclement weather.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Presidential Election Day
Thanksgiving Day
Christmas Day

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

Paid Holidays

None

Shift Rates

Off shift work commencing between 5:00 P.M. and 11:00 P.M. shall work eight and one half hours allowing for one half hour for lunch. The wage rate shall be 113% of the straight time hourly wage rate.

(Carpenters District Council)

CARPENTER - SIDEWALK SHED, SCAFFOLD AND HOIST

Carpenter - Hod Hoist

(Assisted by Mason Tender)

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$49.60

Supplemental Benefit Rate per Hour: \$43.00

Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Saturday may be used as a make-up day at straight time when a day is lost during that week to inclement weather.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day

President's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Presidential Election Day

Thanksgiving Day

Day after Thanksgiving

Christmas Day

Paid Holidays

None

Shift Rates

The second shift will receive one hour at the double time rate of pay for the last hour of the shift; eight hours pay for seven hours of work, nine hours pay for eight hours of work. There must be a first shift in order to work a second shift.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

(Carpenters District Council)

CEMENT & CONCRETE WORKER

Cement & Concrete Worker

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$42.48

Supplemental Benefit Rate per Hour: \$26.57

Supplemental Note: \$29.32 on Saturdays; \$32.07 on Sundays & Holidays

Overtime Description

Time and one half the regular rate after 7 hour day (time and one half the regular rate after an 8 hour day when working with Dockbuilders on pile cap forms and for work below street level to the top of the foundation wall, not to exceed 2 feet or 3 feet above the sidewalk-brick shelf, when working on the foundation and structure.)

Overtime

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day

President's Day

Good Friday

Memorial Day

Independence Day

Labor Day

Columbus Day

Presidential Election Day

Thanksgiving Day

Christmas Day

Paid Holidays

1/2 day before Christmas Day

1/2 day before New Year's Day

Shift Rates

On shift work extending over a twenty-four hour period, all shifts are paid at straight time.

(Cement Concrete Workers District Council)

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

CEMENT MASON

Cement Mason

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$38.88

Supplemental Benefit Rate per Hour: \$39.80

Supplemental Note: For time and one half overtime - \$49.05; For double overtime - \$58.30

Overtime Description

Time and one-half the regular rate after an 8 hour day, double time the regular rate after 10 hours. Time and one-half the regular rate on Saturday, double time the regular rate after 10 hours. Double time the regular rate on Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day

President's Day

Good Friday

Memorial Day

Independence Day

Labor Day

Columbus Day

Presidential Election Day

Thanksgiving Day

Christmas Day

Paid Holidays

Any worker who reports to work on Christmas Eve or New Year's Eve pursuant to his employer's instruction shall be entitled to three (3) hours afternoon pay without working.

Shift Rates

For an off shift day, (work at times other than the regular 7:00 A.M. to 3:30 P.M. work day) a cement mason shall be paid at the regular hourly rate plus a 25% per hour differential. Four Days a week at Ten (10)hour day.

(Local #780)

CORE DRILLER

Core Driller

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$36.82

Supplemental Benefit Rate per Hour: \$22.69

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
\$220 PREVAILING WAGE SCHEDULE

Core Driller Helper

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$29.44

Supplemental Benefit Rate per Hour: \$22.69

Core Driller Helper(Third year in the industry)

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$26.50

Supplemental Benefit Rate per Hour: \$22.69

Core Driller Helper (Second year in the industry)

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$23.55

Supplemental Benefit Rate per Hour: \$22.69

Core Driller Helper (First year in the industry)

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$20.61

Supplemental Benefit Rate per Hour: \$22.69

Overtime Description

Time and one half the regular rate for work on a holiday plus Holiday pay when worked.

Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Time and one half the regular rate for work on the following holiday(s).

Paid Holidays

New Year's Day

Memorial Day

Independence Day

Labor Day

Thanksgiving Day

Christmas Day

Shift Rates

The shift day shall be the continuous eight and one-half (8½) hours from 6:00 A.M. to 2:30 P.M. and from 2:30 P.M. to 11:00 P.M., including one-half (½) hour of employees regular rate of pay for lunch. When two (2) or more shifts are employed, single time shall be paid for each shift, but those employees employed on a shift other than from 8:00 A.M. to 5:00 P.M. shall, in addition, receive seventy-five cents (\$0.75) per hour differential for each hour worked. When three (3) shifts are needed, each shift shall work seven and one-half (7 ½) hours paid for eight (8) hours of labor and be permitted one-half (½) hour for mealtime.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

(Carpenters District Council)

DERRICKPERSON AND RIGGER

Derrick Person & Rigger

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$44.84

Supplemental Benefit Rate per Hour: \$49.28

Supplemental Note: The above supplemental rate applies for work performed in Manhattan, Bronx, Brooklyn and Queens. \$50.70 - For work performed in Staten Island.

Overtime Description

The first two hours of overtime on weekdays and the first seven hours of work on Saturdays are paid at time and one half for wages and supplemental benefits. All additional overtimes is paid at double time for wages and supplemental benefits. Deduct \$1.42 from the Staten Island hourly benefits rate before computing overtime.

Overtime

Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day
Washington's Birthday
Good Friday
Memorial Day
Independence Day
Labor Day
Thanksgiving Day
Christmas Day

Paid Holidays

1/2 day on Christmas Eve if work is performed in the A.M.

(Local #197)

DIVER

Diver (Marine)

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$63.82

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
\$220 PREVAILING WAGE SCHEDULE

Supplemental Benefit Rate per Hour: \$46.65

Diver Tender (Marine)

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$45.47

Supplemental Benefit Rate per Hour: \$46.65

Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Saturday may be used as a make-up day at straight time when a day is lost during that week to inclement weather.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day

President's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Presidential Election Day

Thanksgiving Day

Christmas Day

Paid Holidays

None

Shift Rates

When three shifts are utilized each shift shall work seven and one half-hours (7 1/2 hours) and paid for 8 hours, allowing for one half hour for lunch.

(Carpenters District Council)

DOCKBUILDER - PILE DRIVER

Dockbuilder - Pile Driver

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$50.50

Supplemental Benefit Rate per Hour: \$46.65

Overtime

Time and one half the regular rate after an 8 hour day.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Saturday may be used as a make-up day at straight time when a day is lost during that week to inclement weather.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day

President's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Presidential Election Day

Thanksgiving Day

Christmas Day

Paid Holidays

None

Shift Rates

Off shift work commencing between 5:00 P.M. and 11:00 P.M. shall work eight and one half hours allowing for one half hour for lunch. The wage rate shall be 113% of the straight time hourly wage rate.

(Carpenters District Council)

DRIVER: TRUCK (TEAMSTER)

Driver - Dump Truck

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$39.53

Supplemental Benefit Rate per Hour: \$41.59

Supplemental Note: Over 40 hours worked: time and one half rate \$16.94, double time rate \$22.58

Driver - Tractor Trailer

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$39.50

Supplemental Benefit Rate per Hour: \$43.35

Supplemental Note: For over 40 hours worked: at time and one half - \$16.65; at double time - \$22.20

Driver - Euclid & Turnapull Operator

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$40.06

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

Supplemental Benefit Rate per Hour: \$43.35

Supplemental Note: Over 40 hours worked: time and one half rate \$16.65 double time rate \$22.20

Overtime Description

For Paid Holidays: Holiday pay for all holidays shall be prorated based two hours per day for each day worked in the holiday week, not to exceed 8 hours of holiday pay. For Thanksgiving week, the prorated share shall be 5 1/3 hours of holiday pay for each day worked in Thanksgiving week.

Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day

President's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Veteran's Day

Thanksgiving Day

Day after Thanksgiving

Christmas Day

Paid Holidays

New Year's Day

President's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Veteran's Day

Thanksgiving Day

Day after Thanksgiving

Christmas Day

Shift Rates

Off single shift work commencing between 6:00 P.M. and 5:00 A.M. shall work eight and one half hours allowing for one half hour for lunch and receive 9 hours pay for 8 hours of work.

Driver Redi-Mix (Sand & Gravel)

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$36.30

Supplemental Benefit Rate per Hour: \$40.02

Supplemental Note: Over 40 hours worked: time and one half rate \$13.90, double time rate \$18.53

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

Overtime Description

For Paid Holidays: Employees working two (2) days in the calendar week in which the holiday falls are to paid for these holidays, provided they shape each remaining workday during that calendar week.

Overtime

Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

President's Day
Columbus Day
Veteran's Day

Triple time the regular rate for work on the following holiday(s).

New Year's Day
Memorial Day
Independence Day
Labor Day
Thanksgiving Day
Christmas Day

Paid Holidays

New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Election Day
Thanksgiving Day
Christmas Day

(Local #282)

ELECTRICIAN

(Including all low voltage cabling carrying data; video; and voice in combination with data and or video.)

Electrician "A" (Regular Day)

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$54.00

Supplemental Benefit Rate per Hour: \$50.03

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

Electrician "A" (Regular Day Overtime)

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$81.00

Supplemental Benefit Rate per Hour: \$53.41

Electrician "A" (Day Shift)

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$54.00

Supplemental Benefit Rate per Hour: \$50.03

Electrician "A" (Day Shift Overtime After 8 hours)

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$81.00

Supplemental Benefit Rate per Hour: \$53.41

Electrician "A" (Swing Shift)

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$63.36

Supplemental Benefit Rate per Hour: \$56.94

Electrician "A" (Swing Shift Overtime After 7.5 hours)

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$95.04

Supplemental Benefit Rate per Hour: \$60.91

Electrician "A" (Graveyard Shift)

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$70.97

Supplemental Benefit Rate per Hour: \$62.78

Electrician "A" (Graveyard Shift Overtime After 7 hours)

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$106.46

Supplemental Benefit Rate per Hour: \$67.23

Overtime

Time and one half the regular rate after a 7 hour day.

Time and one half the regular rate for Saturday.

Time and one half the regular rate for Sunday.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

Overtime Holidays

Time and one half the regular rate for work on a holiday.

New Year's Day
Martin Luther King Jr. Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Paid Holidays

None

Shift Rates

When so elected by the Employer, one or more shifts of at least five days duration may be scheduled as follows:
Day Shift: 8:00 am to 4:30 pm, Swing Shift 4:30 pm to 12:30 am, Graveyard Shift: 12:30 am to 8:00 am.

For multiple shifts of temporary light and/or power, the temporary light and/or power employee shall be paid for 8 hours at the straight time rate. For three or less workers performing 8 hours temporary light and/or power the supplemental benefit rate is \$24.39.

Electrician "M" (First 8 hours)

"M" rated work shall be defined as jobbing: electrical work of limited duration and scope, also consisting of repairs and/or replacement of electrical and tele-data equipment. Includes all work necessary to retrofit, service, maintain and repair all kinds of lighting fixtures and local lighting controls and washing and cleaning of foregoing fixtures.

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$27.50

Supplemental Benefit Rate per Hour: \$20.82

First and Second Year "M" Wage Rate Per Hour: \$23.00

First and Second Year "M" Supplemental Rate: \$18.56

Electrician "M" (Overtime After First 8 hours)

"M" rated work shall be defined as jobbing: electrical work of limited duration and scope, also consisting of repairs and/or replacement of electrical and tele-data equipment. Includes all work necessary to retrofit, service, maintain and repair all kinds of lighting fixtures and local lighting controls and washing and cleaning of foregoing fixtures.

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$41.25

Supplemental Benefit Rate per Hour: \$22.54

First and Second Year "M" Wage Rate Per Hour: \$34.50

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

First and Second Year "M" Supplemental Rate: \$20.00

Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Time and one half the regular rate for Sunday.

Overtime Holidays

Time and one half the regular rate for work on the following holiday(s).

New Year's Day

Martin Luther King Jr. Day

President's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Veteran's Day

Thanksgiving Day

Day after Thanksgiving

Christmas Day

Paid Holidays

None

(Local #3)

ELECTRICIAN - ALARM TECHNICIAN

(Scope of Work - Inspect, test, repair, and replace defective, malfunctioning, or broken devices, components and controls of Fire, Burglar and Security Systems)

Alarm Technician

Effective Period: 7/1/2015 - 3/9/2016

Wage Rate per Hour: **\$31.40**

Supplemental Benefit Rate per Hour: **\$14.76**

Supplemental Note: \$13.26 only after 8 hours worked in a day

Effective Period: 3/10/2016 - 6/30/2016

Wage Rate per Hour: **\$32.00**

Supplemental Benefit Rate per Hour: **\$15.47**

Supplemental Note: \$13.97 only after 8 hours worked in a day

Overtime Description

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

Time and one half the regular rate for work on the following holidays: Columbus Day, Veterans Day, Day after Thanksgiving.
Double time the regular rate for work on the following holidays: New Year's day, Martin Luther King Jr. Day, President's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Christmas Day.

Overtime

Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.

Paid Holidays

New Year's Day
Martin Luther King Jr. Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Shift Rates

Night Differential is based upon a ten percent (10%) differential between the hours of 4:00 P.M. and 12:30 A.M. and a fifteen percent (15%) differential for the hours 12:00 A.M. to 8:00 A.M.

Vacation

At least 1 year of employment.....ten (10) days
5 years or more of employment.....fifteen (15) days
10 years of employment.....twenty (20) days
Plus one Personal Day per year

Sick Days:

One day per Year. Up to 4 vacation days may be used as sick days.

(Local #3)

ELECTRICIAN-STREET LIGHTING WORKER

Electrician - Electro Pole Electrician

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$54.00

Supplemental Benefit Rate per Hour: \$51.86

Electrician - Electro Pole Foundation Installer

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$40.93

Supplemental Benefit Rate per Hour: \$39.46

Electrician - Electro Pole Maintainer

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$35.05

Supplemental Benefit Rate per Hour: \$35.51

Overtime Description

Electrician - Electro Pole Electrician: Time and one half the regular rate after a 7 hour day and after 5 consecutive days worked per week.

Electrician - Electro Pole Foundation Installer: Time and one half the regular rate after 8 hours within a 24 hour period and Saturday and Sunday.

Electrician - Electro Pole Maintainer: Time and one half the regular rate after a 7 hour day and after 5 consecutive days worked per week. Saturdays and Sundays may be used as a make-up day at straight time when a day is lost during the week to inclement weather.

Overtime Holidays

Time and one half the regular rate for work on the following holiday(s).

New Year's Day

Martin Luther King Jr. Day

President's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Veteran's Day

Thanksgiving Day

Day after Thanksgiving

Christmas Day

Paid Holidays

None

(Local #3)

ELEVATOR CONSTRUCTOR

Elevator Constructor

Effective Period: 7/1/2015 - 3/16/2016

Wage Rate per Hour: \$59.55

Supplemental Benefit Rate per Hour: \$31.07

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

Effective Period: 3/17/2016 - 6/30/2016

Wage Rate per Hour: \$60.96

Supplemental Benefit Rate per Hour: \$32.67

Overtime Description

For New Construction: work performed after 7 or 8 hour day, Saturday, Sunday or between 4:30pm and 7:00am shall be paid at double time rate.

Existing buildings: work performed after an 8 hour day, Saturday, Sunday or between 5:30pm and 7:00 am shall be paid time and one half.

Overtime

Double time the regular rate for work on the following holiday(s).

Paid Holidays

New Year's Day
President's Day
Good Friday
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Vacation

Employer contributes 8% of regular basic hourly rate as vacation pay for employees with more than 15 years of service, and 6% for employees with 5 to 15 years of service, and 4% for employees with less than 5 years of service.

(Local #1)

ELEVATOR REPAIR & MAINTENANCE

Elevator Service/Modernization Mechanic

Effective Period: 7/1/2015 - 3/16/2016

Wage Rate per Hour: \$46.92

Supplemental Benefit Rate per Hour: \$30.91

Effective Period: 3/17/2016 - 6/30/2016

Wage Rate per Hour: \$47.91

Supplemental Benefit Rate per Hour: \$32.51

Overtime Description

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

For Scheduled Service Work: Double time - work scheduled in advance by two or more workers performed on Sundays, Holidays, and between midnight and 7:00am.

Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Time and one half the regular rate for Sunday.

Time and one half the regular rate for work on a holiday plus the day's pay.

Paid Holidays

New Year's Day

President's Day

Good Friday

Memorial Day

Independence Day

Labor Day

Columbus Day

Veteran's Day

Thanksgiving Day

Day after Thanksgiving

Christmas Day

Shift Rates

Afternoon shift - regularly hourly rate plus a (15%) fifteen percent differential. Graveyard shift - time and one half the regular rate.

Vacation

Employer contributes 8% of regular basic hourly rate as vacation pay for employees with more than 15 years of service, and 6% for employees with 5 to 15 years of service, and 4% for employees with less than 5 years of service.

(Local #1)

ENGINEER

Engineer - Heavy Construction Operating Engineer I

Cherrypickers 20 tons and over and Loaders (rubber tired and/or tractor type with a manufacturer's minimum rated capacity of six cubic yards and over).

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$64.31

Supplemental Benefit Rate per Hour: \$34.25

Supplemental Note: \$61.60 on overtime

Shift Wage Rate: \$102.90

Engineer - Heavy Construction Operating Engineer II

**OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE**

Backhoes, Basin Machines, Groover, Mechanical Sweepers, Bobcat, Boom Truck, Barrier Transport (Barrier Mover) & machines of similar nature. Operation of Churn Drills and machines of a similar nature, Stetco Silent Hoist and machines of similar nature, Vac-A-alls, Meyers Machines, John Beam and machines of a similar nature, Ross Carriers and Travel Lifts and machines of a similar nature, Bulldozers, Scrapers and Turn-a-Pulls: Tugger Hoists (Used exclusively for handling excavated material); Tractors with attachments, Hyster and Roustabout Cranes, Cherrypickers. Austin Western, Grove and machines of a similar nature, Scoopmobiles, Monorails, Conveyors, Trenchers: Loaders-Rubber Tired and Tractor: Barber Greene and Eimco Loaders and Eimco Backhoes; Mighty Midget and similar breakers and Tampers, Curb and Gutter Pavers and Motor Patrol, Motor Graders and all machines of a similar nature. Locomotives 10 Tons or under. Mini-Max, Break-Tech and machines of a similar nature; Milling machines, robotic and demolition machines and machines of a similar nature, shot blaster, skid steer machines and machines of a similar nature including bobcat, pile rig rubber-tired excavator (37,000 lbs. and under), 2 man auger.

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: **\$62.40**

Supplemental Benefit Rate per Hour: **\$34.25**

Supplemental Note: \$61.60 on overtime

Shift Wage Rate: **\$99.84**

Engineer - Heavy Construction Operating Engineer III

Minor Equipment such as Tractors, Post Hole Diggers, Ditch Witch (Walk Behind), Road Finishing Machines, Rollers five tons and under, Tugger Hoists, Dual Purpose Trucks, Fork Lifts, and Dempsey Dumpers, Fireperson.

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: **\$59.20**

Supplemental Benefit Rate per Hour: **\$34.25**

Supplemental Note: \$61.60 on overtime

Shift Wage Rate: **\$94.72**

Engineer - Heavy Construction Maintenance Engineer I

Installing, Repairing, Maintaining, Dismantling and Manning of all equipment including Steel Cutting, Bending and Heat Sealing Machines, Mechanical Heaters, Grout Pumps, Bentonite Pumps & Plants, Screening Machines, Fusion Coupling Machines, Tunnel Boring Machines Moles and Machines of a similar nature, Power Packs, Mechanical Hydraulic Jacks; all drill rigs including but not limited to Churn, Rotary Caisson, Raised Bore & Drills of a similar nature; Personnel, Inspection & Safety Boats or any boats used to perform functions of same, Mine Hoists, Whirlies, all Climbing Cranes, all Tower Cranes, including but not limited to Truck Mounted and Crawler Type and machines of similar nature; Maintaining Hydraulic Drills and machines of a similar nature; Well Point System-Installation and dismantling; Burning, Welding, all Pumps regardless of size and/or motor power, except River Cofferdam Pumps and Wells Point Pumps; Motorized Buggies (three or more); equipment used in the cleaning and televising of sewers, but not limited to jet-rodder/vacuum truck, vacall/vactor, closed circuit television inspection equipment; high powered water pumps, jet pumps; screed machines and concrete finishing machines of a similar nature; vermeers.

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: **\$62.11**

Supplemental Benefit Rate per Hour: **\$34.25**

Supplemental Note: \$61.60 on overtime

Shift Wage Rate: **\$99.38**

Engineer - Heavy Construction Maintenance Engineer II

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

On Base Mounted Tower Cranes

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: **\$81.54**

Supplemental Benefit Rate per Hour: **\$34.25**

Supplemental Note: \$61.60 on overtime

Shift Wage Rate: **\$130.46**

Engineer - Heavy Construction Maintenance Engineer III

On Generators, Light Towers

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: **\$41.04**

Supplemental Benefit Rate per Hour: **\$34.25**

Supplemental Note: \$61.60 on overtime

Shift Wage Rate: **\$65.66**

Engineer - Heavy Construction Maintenance Engineer IV

On Pumps and Mixers including mud sucking

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: **\$42.11**

Supplemental Benefit Rate per Hour: **\$34.25**

Supplemental Note: \$61.60 on overtime

Shift Wage Rate: **\$67.38**

Engineer - Heavy Construction Oilers I

Gradalls, Cold Planer Grader, Concrete Pumps, Driving Truck Cranes, Driving and Operating Fuel and Grease Trucks.

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: **\$56.02**

Supplemental Benefit Rate per Hour: **\$34.25**

Supplemental Note: \$61.60 on overtime

Shift Wage Rate: **\$89.63**

Engineer - Heavy Construction Oilers II

All gasoline, electric, diesel or air operated Shovels, Draglines, Backhoes, Keystones, Pavers, Gunite Machines, Battery of Compressors, Crawler Cranes, two-person Trenching Machines.

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: **\$38.79**

Supplemental Benefit Rate per Hour: **\$34.25**

Supplemental Note: \$61.60 on overtime

Shift Wage Rate: **\$62.06**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

Engineer - Steel Erection Maintenance Engineers

Derrick, Travelers, Tower, Crawler Tower and Climbing Cranes

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: **\$59.77**

Supplemental Benefit Rate per Hour: **\$34.25**

Supplemental Note: **\$61.60** on overtime

Shift Wage Rate: **\$95.63**

Engineer - Steel Erection Oiler I

On a Truck Crane

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: **\$55.95**

Supplemental Benefit Rate per Hour: **\$34.25**

Supplemental Note: **\$61.60** on overtime

Shift Wage Rate: **\$89.52**

Engineer - Steel Erection Oiler II

On a Crawler Crane

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: **\$42.64**

Supplemental Benefit Rate per Hour: **\$34.25**

Supplemental Note: **\$61.60** on overtime

Shift Wage Rate: **\$68.22**

Overtime Description

On jobs of more than one shift, if the next shift employee fails to report for work through any cause over which the employer has no control, the employee on duty who works the next shift continues to work at the single time rate.

Overtime

Double time the regular rate after an 8 hour day.

Double time the regular time rate for Saturday.

Double time the regular rate for Sunday.

Double time the regular rate for work on the following holiday(s).

Paid Holidays

New Year's Day

Lincoln's Birthday

President's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Veteran's Day

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
\$220 PREVAILING WAGE SCHEDULE

Thanksgiving Day
Day after Thanksgiving
Christmas Day

Employees must work at least one day in the payroll week in which the holiday occurs to receive the paid holiday

Engineer - Building Work Maintenance Engineers I

Installing, repairing, maintaining, dismantling (of all equipment including: Steel Cutting and Bending Machines, Mechanical Heaters, Mine Hoists, Climbing Cranes, Tower Cranes, Linden Peine, Lorain, Liebherr, Mannes, or machines of a similar nature, Well Point Systems, Deep Well Pumps, Concrete Mixers with loading Device, Concrete Plants, Motor Generators when used for temporary power and lights), skid steer machines of a similar nature including bobcat.

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$56.88

Supplemental Benefit Rate per Hour: \$34.25

Supplemental Note: \$61.60 on overtime

Engineer - Building Work Maintenance Engineers II

On Pumps, Generators, Mixers and Heaters

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$44.22

Supplemental Benefit Rate per Hour: \$34.25

Supplemental Note: \$61.60 on overtime

Engineer - Building Work Oilers I

All gasoline, electric, diesel or air operated Gradealls: Concrete Pumps, Overhead Cranes in Power Houses: Their duties shall be to assist the Engineer in oiling, greasing and repairing of all machines; Driving Truck Cranes: Driving and Operating Fuel and Grease Trucks, Cherrypickers (hydraulic cranes) over 70,000 GVW, and machines of a similar nature.

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$54.08

Supplemental Benefit Rate per Hour: \$34.25

Supplemental Note: \$61.60 on overtime

Engineer - Building Work Oilers II

Oilers on Crawler Cranes, Backhoes, Trenching Machines, Gunite Machines, Compressors (three or more in Battery).

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$40.21

Supplemental Benefit Rate per Hour: \$34.25

Supplemental Note: \$61.60 on overtime

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

Overtime Description

On jobs of more than one shift, if an Employee fails to report for work through any cause over which the Employer has no control, the Employee on duty will continue to work at the rate of single time.

Overtime

Double time the regular rate after an 8 hour day.
Double time the regular time rate for Saturday.
Double time the regular rate for Sunday.
Double time the regular rate for work on the following holiday(s).

Paid Holidays

New Year's Day
Lincoln's Birthday
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Christmas Day

Employees must work at least one day in the payroll week in which the holiday occurs to receive the paid holiday

Shift Rates

Off Shift: double time the regular hourly rate.

(Local #15)

ENGINEER - CITY SURVEYOR AND CONSULTANT

Party Chief

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: **\$37.04**

Supplemental Benefit Rate per Hour: **\$18.60**

Supplemental Note: Overtime Benefit Rate - \$25.45 per hour (time & one half) \$32.30 per hour (double time).

Instrument Person

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: **\$30.59**

Supplemental Benefit Rate per Hour: **\$18.60**

Supplemental Note: Overtime Benefit Rate - \$25.45 per hour (time & one half) \$32.30 per hour (double time).

Rodperson

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: **\$26.52**

Supplemental Benefit Rate per Hour: **\$18.60**

Supplemental Note: Overtime Benefit Rate - \$25.45 per hour (time & one half) \$32.30 per hour (double time).

Overtime Description

Time and one half the regular rate after an 8 hour day, Time and one half the regular rate for Saturday for the first eight hours worked, Double time the regular time rate for Saturday for work performed in excess of eight hours, Double time the regular rate for Sunday and Double time the regular rate for work on a holiday.

Paid Holidays

New Year's Day

Lincoln's Birthday

President's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Veteran's Day

Thanksgiving Day

Day after Thanksgiving

Christmas Day

Employees must work at least one day in the payroll week in which the holiday occurs to receive the paid holiday

(Operating Engineer Local #15-D)

ENGINEER - FIELD (BUILDING CONSTRUCTION) (Construction of Building Projects, Concrete Superstructures, etc.)

Field Engineer - BC Party Chief

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: **\$60.77**

Supplemental Benefit Rate per Hour: **\$32.40**

Supplemental Note: Overtime Benefit Rate - \$45.28 per hour (time & one half) \$58.15 per hour (double time).

Field Engineer - BC Instrument Person

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: **\$47.20**

Supplemental Benefit Rate per Hour: **\$32.40**

Supplemental Note: Overtime Benefit Rate - \$45.28 per hour (time & one half) \$58.15 per hour (double time).

Field Engineer - BC Rodperson

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: **\$30.49**

Supplemental Benefit Rate per Hour: **\$32.40**

Supplemental Note: Overtime Benefit Rate - \$45.28 per hour (time & one half) \$58.15 per hour (double time).

Overtime Description

Time and one half the regular rate after a 7 hour work and time and one half the regular rate for Saturday for the first seven hours worked, Double time the regular time rate for Saturday for work performed in excess of seven hours, Double time the regular rate for Sunday and Double time the regular rate for work on a holiday.

Paid Holidays

New Year's Day

President's Day

Good Friday

Memorial Day

Independence Day

Labor Day

Columbus Day

Veteran's Day

Thanksgiving Day

Christmas Day

Employees must work at least one day in the payroll week in which the holiday occurs to receive the paid holiday

(Operating Engineer Local #15-D)

ENGINEER - FIELD (HEAVY CONSTRUCTION)

(Construction of Roads, Tunnels, Bridges, Sewers, Building Foundations, Engineering Structures etc.)

Field Engineer - HC Party Chief

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: **\$66.43**

Supplemental Benefit Rate per Hour: **\$32.40**

Supplemental Note: Overtime benefit rate - \$45.28 per hour (time & one half), \$58.15 per hour (double time).

Field Engineer - HC Instrument Person

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: **\$48.82**

Supplemental Benefit Rate per Hour: **\$32.40**

Supplemental Note: Overtime benefit rate - \$45.28 per hour (time & one half), \$58.15 per hour (double time).

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
\$220 PREVAILING WAGE SCHEDULE

Field Engineer - HC Rodperson

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$40.99

Supplemental Benefit Rate per Hour: \$32.40

Supplemental Note: Overtime benefit rate - \$45.28 per hour (time & one half), \$58.15 per hour (double time).

Overtime Description

Time and one half the regular rate after an 8 hour day, Time and one half the regular rate for Saturday for the first eight hours worked, Double time the regular time rate for Saturday for work performed in excess of eight hours, Double time the regular rate for Sunday and Double time the regular rate for work on a holiday.

Paid Holidays

New Year's Day

Lincoln's Birthday

President's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Veteran's Day

Thanksgiving Day

Christmas Day

Employees must work at least one day in the payroll week in which the holiday occurs to receive the paid holiday

(Operating Engineer Local #15-D)

ENGINEER - FIELD (STEEL ERECTION)

Field Engineer - Steel Erection Party Chief

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$62.26

Supplemental Benefit Rate per Hour: \$32.40

Supplemental Note: Overtime benefit rate - \$45.28 per hour (time & one half), \$58.15 per hour (double time).

Field Engineer - Steel Erection Instrument Person

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$48.57

Supplemental Benefit Rate per Hour: \$32.40

Supplemental Note: Overtime benefit rate - \$45.28 per hour (time & one half), \$58.15 per hour (double time).

Field Engineer - Steel Erection Rodperson

Effective Period: 7/1/2015 - 6/30/2016

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

Wage Rate per Hour: \$32.61

Supplemental Benefit Rate per Hour: \$32.40

Supplemental Note: Overtime benefit rate - \$45.28 per hour (time & one half), \$58.15 per hour (double time).

Overtime Description

Time and one half the regular rate for Saturday for the first eight hours worked.

Double time the regular rate for Saturday for work performed in excess of eight hours.

Overtime

Time and one half the regular rate after an 8 hour day.

Double time the regular rate for Sunday.

Double time the regular rate for work on the following holiday(s).

Paid Holidays

New Year's Day

Lincoln's Birthday

President's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Veteran's Day

Thanksgiving Day

Christmas Day

Employees must work at least one day in the payroll week in which the holiday occurs to receive the paid holiday

(Operating Engineer Local #15-D)

ENGINEER - OPERATING

Operating Engineer - Road & Heavy Construction I

Back Filling Machines, Cranes, Mucking Machines and Dual Drum Paver.

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$71.75

Supplemental Benefit Rate per Hour: \$30.40

Supplemental Note: \$55.10 overtime hours

Shift Wage Rate: \$114.80

Operating Engineer - Road & Heavy Construction II

Backhoes, Power Shovels, Hydraulic Clam Shells, Steel Erection, Moles and machines of a similar nature.

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$74.29

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Supplemental Benefit Rate per Hour: \$30.40
Supplemental Note: \$55.10 overtime hours
Shift Wage Rate: \$118.86

Operating Engineer - Road & Heavy Construction III

Mine Hoists, Cranes, etc. (Used as Mine Hoists)

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate per Hour: \$76.67
Supplemental Benefit Rate per Hour: \$30.40
Supplemental Note: \$55.10 overtime hours
Shift Wage Rate: \$122.67

Operating Engineer - Road & Heavy Construction IV

Gradealls, Keystones, Cranes on land or water (with digging buckets), Bridge Cranes, Vermeer Cutter and machines of a similar nature, Trenching Machines.

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate per Hour: \$74.84
Supplemental Benefit Rate per Hour: \$30.40
Supplemental Note: \$55.10 overtime hours
Shift Wage Rate: \$119.74

Operating Engineer - Road & Heavy Construction V

Pile Drivers & Rigs (employing Dock Builder foreperson): Derrick Boats, Tunnel Shovels.

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate per Hour: \$73.36
Supplemental Benefit Rate per Hour: \$30.40
Supplemental Note: \$55.10 overtime hours
Shift Wage Rate: \$117.38

Operating Engineer - Road & Heavy Construction VI

Mixers (Concrete with loading attachment), Concrete Pavers, Cableways, Land Derricks, Power Houses (Low Air Pressure Units).

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate per Hour: \$69.69
Supplemental Benefit Rate per Hour: \$30.40
Supplemental Note: \$55.10 overtime hours
Shift Wage Rate: \$111.50

Operating Engineer - Road & Heavy Construction VII

Barrier Movers , Barrier Transport and Machines of a Similar Nature.

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Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$56.25

Supplemental Benefit Rate per Hour: \$30.40

Supplemental Note: \$55.10 overtime hours

Shift Wage Rate: \$90.00

Operating Engineer - Road & Heavy Construction VIII

Utility Compressors

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$43.63

Supplemental Benefit Rate per Hour: \$30.40

Supplemental Note: \$55.10 overtime hours

Shift Wage Rate: \$55.03

Operating Engineer - Road & Heavy Construction IX

Horizontal Boring Rig

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$66.26

Supplemental Benefit Rate per Hour: \$30.40

Supplemental Note: \$55.10 overtime hours

Shift Wage Rate: \$106.02

Operating Engineer - Road & Heavy Construction X

Elevators (manually operated as personnel hoist).

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$60.89

Supplemental Benefit Rate per Hour: \$30.40

Supplemental Note: \$55.10 overtime hours

Shift Wage Rate: \$97.42

Operating Engineer - Road & Heavy Construction XI

Compressors (Portable 3 or more in battery), Driving of Truck Mounted Compressors, Well-point Pumps, Tugger Machines Well Point Pumps, Churn Drill.

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$47.28

Supplemental Benefit Rate per Hour: \$30.40

Supplemental Note: \$55.10 overtime hours

Shift Wage Rate: \$75.65

Operating Engineer - Road & Heavy Construction XII

All Drills and Machines of a similar nature.

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Effective Period: 7/1/2015 - 6/30/2016
Wage Rate per Hour: \$70.42
Supplemental Benefit Rate per Hour: \$30.40
Supplemental Note: \$55.10 overtime hours
Shift Wage Rate: \$112.67

Operating Engineer - Road & Heavy Construction XIII

Concrete Pumps, Concrete Plant, Stone Crushers, Double Drum Hoist, Power Houses (other than above).

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate per Hour: \$68.19
Supplemental Benefit Rate per Hour: \$30.40
Supplemental Note: \$55.10 overtime hours
Shift Wage Rate: \$109.10

Operating Engineer - Road & Heavy Construction XIV

Concrete Mixer

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate per Hour: \$65.20
Supplemental Benefit Rate per Hour: \$30.40
Supplemental Note: \$55.10 overtime hours
Shift Wage Rate: \$104.32

Operating Engineer - Road & Heavy Construction XV

Compressors (Portable Single or two in Battery, not over 100 feet apart), Pumps (River Cofferdam) and Welding Machines, Push Button Machines, All Engines Irrespective of Power (Power-Pac) used to drive auxiliary equipment, Air, Hydraulic, etc.

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate per Hour: \$43.91
Supplemental Benefit Rate per Hour: \$30.40
Supplemental Note: \$55.10 overtime hours
Shift Wage Rate: \$70.26

Operating Engineer - Road & Heavy Construction XVI

Concrete Breaking Machines, Hoists (Single Drum), Load Masters, Locomotives (over ten tons) and Dinkies over ten tons, Hydraulic Crane-Second Engineer.

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate per Hour: \$62.25
Supplemental Benefit Rate per Hour: \$30.40
Supplemental Note: \$55.10 overtime hours
Shift Wage Rate: \$99.60

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Operating Engineer - Road & Heavy Construction XVII

On-Site concrete plant engineer, On-site Asphalt Plant Engineer, and Vibratory console.

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: **\$62.74**

Supplemental Benefit Rate per Hour: **\$30.40**

Supplemental Note: \$55.10 overtime hours

Shift Wage Rate: **\$100.38**

Operating Engineer - Road & Heavy Construction XVIII

Tower Crane

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: **\$90.09**

Supplemental Benefit Rate per Hour: **\$30.40**

Supplemental Note: \$55.10 overtime hours

Shift Wage Rate: **\$144.14**

Operating Engineer - Paving I

Asphalt Spreaders, Autogrades (C.M.I.), Roto/Mil

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: **\$69.69**

Supplemental Benefit Rate per Hour: **\$30.40**

Supplemental Note: \$55.10 overtime hours

Shift Wage Rate: **\$111.50**

Operating Engineer - Paving II

Asphalt Roller

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: **\$67.87**

Supplemental Benefit Rate per Hour: **\$30.40**

Supplemental Note: \$55.10 overtime hours

Shift Wage Rate: **\$108.59**

Operating Engineer - Paving III

Asphalt Plants

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: **\$57.40**

Supplemental Benefit Rate per Hour: **\$30.40**

Supplemental Note: \$55.10 overtime hours

Shift Wage Rate: **\$91.84**

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Operating Engineer - Concrete I

Cranes

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$74.51

Supplemental Benefit Rate per Hour: \$30.40

Supplemental Note: \$55.10 overtime hours

Operating Engineer - Concrete II

Compressors

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$44.25

Supplemental Benefit Rate per Hour: \$30.40

Supplemental Note: \$55.10 overtime hours

Operating Engineer - Concrete III

Micro-traps (Negative Air Machines), Vac-All Remediation System.

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$59.51

Supplemental Benefit Rate per Hour: \$30.40

Supplemental Note: \$55.10 overtime hours

Operating Engineer - Steel Erection I

Three Drum Derricks

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$77.40

Supplemental Benefit Rate per Hour: \$30.40

Supplemental Note: \$55.10 overtime hours

Shift Wage Rate: \$123.84

Operating Engineer - Steel Erection II

Cranes, 2 Drum Derricks, Hydraulic Cranes, Fork Lifts and Boom Trucks.

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$74.37

Supplemental Benefit Rate per Hour: \$30.40

Supplemental Note: \$55.10 overtime hours

Shift Wage Rate: \$118.99

Operating Engineer - Steel Erection III

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Compressors, Welding Machines.

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate per Hour: \$44.09
Supplemental Benefit Rate per Hour: \$30.40
Supplemental Note: \$55.10 overtime hours
Shift Wage Rate: \$70.54

Operating Engineer - Steel Erection IV

Compressors - Not Combined with Welding Machine.

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate per Hour: \$41.98
Supplemental Benefit Rate per Hour: \$30.40
Supplemental Note: \$55.10 overtime hours
Shift Wage Rate: \$67.17

Operating Engineer - Building Work I

Forklifts, Plaster (Platform machine), Plaster Bucket, Concrete Pump and all other equipment used for hoisting material.

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate per Hour: \$61.27
Supplemental Benefit Rate per Hour: \$30.40
Supplemental Note: \$55.10 overtime hours

Operating Engineer - Building Work II

Compressors, Welding Machines (Cutting Concrete-Tank Work), Paint Spraying, Sandblasting, Pumps (with the exclusion of Concrete Pumps), All Engines irrespective of Power (Power-Pac) used to drive Auxiliary Equipment, Air, Hydraulic, Jacking System, etc.

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate per Hour: \$45.85
Supplemental Benefit Rate per Hour: \$30.40
Supplemental Note: \$55.10 overtime hours

Operating Engineer - Building Work III

Double Drum

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate per Hour: \$69.76
Supplemental Benefit Rate per Hour: \$30.40
Supplemental Note: \$55.10 overtime hours

Operating Engineer - Building Work IV

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
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Stone Derrick, Cranes, Hydraulic Cranes Boom Trucks.

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$73.91

Supplemental Benefit Rate per Hour: \$30.40

Supplemental Note: \$55.10 overtime hours

Operating Engineer - Building Work V

Dismantling and Erection of Cranes, Relief Engineer.

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$68.09

Supplemental Benefit Rate per Hour: \$30.40

Supplemental Note: \$55.10 overtime hours

Operating Engineer - Building Work VI

4 Pole Hoist, Single Drum Hoists.

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$67.37

Supplemental Benefit Rate per Hour: \$30.40

Supplemental Note: \$55.10 overtime hours

Operating Engineer - Building Work VII

Rack & Pinion and House Cars

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$53.54

Supplemental Benefit Rate per Hour: \$30.40

Supplemental Note: \$55.10 overtime hours

For New House Car projects Wage Rate per Hour \$42.70

Overtime Description

On jobs of more than one shift, if an Employee fails to report for work through any cause over which the Employer has no control, the Employee on duty will continue to work at the rate of single time.

For House Cars and Rack & Pinion only: Overtime paid at time and one-half for all hours in excess of eight hours in a day, Saturday, Sunday and Holidays worked.

Overtime

Double time the regular rate after an 8 hour day.

Double time the regular time rate for Saturday.

Double time the regular rate for Sunday.

Double time the regular rate for work on the following holiday(s).

Paid Holidays

New Year's Day

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
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Lincoln's Birthday
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Employees must work at least one day in the payroll week in which the holiday occurs to receive the paid holiday

Shift Rates

For Steel Erection Only: Shifts may be worked at the single time rate at other than the regular working hours (8:00 A.M. to 4:30 P.M.) on the following work ONLY: Heavy construction jobs on work below the street level, over railroad tracks and on building jobs.

(Operating Engineer Local #14)

FLOOR COVERER

(Interior vinyl composition tile, sheath vinyl linoleum and wood parquet tile including site preparation and synthetic turf not including site preparation)

Floor Coverer

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$50.50

Supplemental Benefit Rate per Hour: \$45.88

Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Presidential Election Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

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Paid Holidays

1/2 day on Christmas Eve if work is performed in the A.M.
1/2 day on New Year's Eve if work is performed in the A.M.

Shift Rates

Two shifts may be utilized with the first shift working 8:00 A.M. to the end of the shift at the straight time of pay. The second shift will receive one hour at double time rate for the last hour of the shift. (eight for seven, nine for eight).

(Carpenters District Council)

GLAZIER

(New Construction, Remodeling, and Alteration)

Glazier

Effective Period: 7/1/2015 - 10/31/2015

Wage Rate per Hour: **\$43.35**

Supplemental Benefit Rate per Hour: **\$36.59**

Supplemental Note: Supplemental Benefit Overtime Rate: **\$45.34**

Effective Period: 11/1/2015 - 6/30/2016

Wage Rate per Hour: **\$43.95**

Supplemental Benefit Rate per Hour: **\$36.84**

Supplemental Note: Supplemental Benefit Overtime Rate: **\$45.59**

Overtime Description

An optional 8th hour can be worked at straight time rate. If 9th hour is worked, then both hours or more (8th & 9th or more) will be at the double time rate of pay.

Overtime

Double time the regular rate after a 7 hour day.

Double time the regular time rate for Saturday.

Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day

President's Day

Memorial Day

Independence Day

Labor Day

Thanksgiving Day

Day after Thanksgiving

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

Christmas Day

Paid Holidays

None

Shift Rates

Shifts shall be any 7 hours beyond 4:00 P.M. for which the glazier shall receive 8 hours pay for 7 hours worked.

(Local #1281)

GLAZIER - REPAIR & MAINTENANCE

(For the Installation of Glass - All repair and maintenance work on a particular building, whenever performed, where the total cumulative contract value is under \$105,000. Except where enumerated (i.e. plate glass windows) does not apply to non-residential buildings.)

Craft Jurisdiction for repair, maintenance and fabrication

Plate glass replacement, Residential glass replacement, Residential mirrors and shower doors, Storm windows and storm doors, Residential replacement windows, Herculite door repairs, Door closer repairs, Retrofit apartment house (non commercial buildings), Glass tinting.

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$23.68

Supplemental Benefit Rate per Hour: \$19.54

Overtime

Time and one half the regular rate after an 8 hour day.

Double time the regular rate for Sunday.

Time and one half the regular hourly rate after 40 hours in any work week.

Paid Holidays

New Year's Day

President's Day

Memorial Day

Independence Day

Labor Day

Thanksgiving Day

Day after Thanksgiving

Christmas Day

(Local #1281)

HEAT AND FROST INSULATOR

Heat & Frost Insulator

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$57.38

Supplemental Benefit Rate per Hour: \$37.41

Overtime Description

Double time shall be paid for supplemental benefits during overtime work.
8th hour paid at time and one half.

Overtime

Double time the regular rate after an 8 hour day.

Double time the regular time rate for Saturday.

Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day

Martin Luther King Jr. Day

President's Day

Memorial Day

Independence Day

Columbus Day

Veteran's Day

Thanksgiving Day

Day after Thanksgiving

Christmas Day

Triple time the regular rate for work on the following holiday(s).

Labor Day

Paid Holidays

None

Shift Rates

The first shift shall work seven hours at the regular straight time rate. The second and third shift shall work seven hours the regular straight time hourly rate plus a fourteen percent wage and benefit premium.

Off hour work in occupied or retail buildings may be worked on weekdays with an increment of \$1.00 per hour and eight hours pay for seven (7) hours worked. Double time will apply for over seven (7) hours worked on weekdays, weekends or holidays.

(Local #12)

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
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**HOUSE WRECKER
(TOTAL DEMOLITION)**

House Wrecker - Tier A

On all work sites the first, second, eleventh and every third House Wrecker thereafter will be Tier A House Wreckers (i.e. 1st, 2nd, 11th, 14th etc). Other House Wreckers may be Tier B House Wreckers.

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: **\$35.52**

Supplemental Benefit Rate per Hour: **\$26.86**

House Wrecker - Tier B

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: **\$24.90**

Supplemental Benefit Rate per Hour: **\$19.88**

Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day

President's Day

Memorial Day

Independence Day

Labor Day

Thanksgiving Day

Christmas Day

Paid Holidays

None

(Mason Tenders District Council)

IRON WORKER - ORNAMENTAL

Iron Worker - Ornamental

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
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Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$43.20

Supplemental Benefit Rate per Hour: \$47.67

Supplemental Note: Supplemental benefits are to be paid at the applicable overtime rate when overtime is in effect.

Overtime Description

Time and one half the regular rate after a 7 hour day for a maximum of two hours on any regular work day (the 8th and 9th hour) and double time shall be paid for all work on a regular work day thereafter, time and one half the regular rate for Saturday for the first seven hours of work and double time shall be paid for all work on a Saturday thereafter.

Overtime

Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day

President's Day

Memorial Day

Independence Day

Labor Day

Thanksgiving Day

Christmas Day

Paid Holidays

None

Shift Rates

For off shift work - 8 hours pay for 7 hours of work. When two or three shifts are employed on a job, Monday through Friday, the workday for each shift shall be seven hours and paid for ten and one-half hours at the single time rate. When two or three shifts are worked on Saturday, Sunday or holidays, each shift shall be seven hours and paid fifteen and three-quarters hours.

(Local #580)

IRON WORKER - STRUCTURAL

Iron Worker - Structural

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$48.75

Supplemental Benefit Rate per Hour: \$67.34

Supplemental Note: Supplemental benefits are to be paid at the applicable overtime rate when overtime is in effect.

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Overtime Description

Monday through Friday- the first eight hours are paid at straight time, the 9th and 10th hours are paid at time and one-half the regular rate, all additional weekday overtime is paid at double the regular rate. Saturdays- the first eight hours are paid at time and one-half the regular rate, double time thereafter. Sunday-all shifts are paid at double time.

Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day

Good Friday

Memorial Day

Independence Day

Labor Day

Thanksgiving Day

Christmas Day

Paid Holidays

1/2 day on Christmas Eve if work is performed in the A.M.

1/2 day on New Year's Eve if work is performed in the A.M.

Shift Rates

Monday through Friday - First Shift: First eight hours are paid at straight time, the 9th & 10th hours are paid at time and a half, double time paid thereafter. Second and third Shifts: First eight hours are paid at time and one-half, double time thereafter. Saturdays: All shifts, first eight hours paid at time and one-half, double time thereafter: Sunday all shifts are paid at double time.

(Local #40 & #361)

LABORER

(Foundation, Concrete, Excavating, Street Pipe Layer and Common)

Laborer

Excavation and foundation work for buildings, heavy construction, engineering work, and hazardous waste removal in connection with the above work. Landscaping tasks in connection with heavy construction work, engineering work and building projects. Projects include, but are not limited to pollution plants, sewers, parks, subways, bridges, highways, etc.

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$40.50

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Supplemental Benefit Rate per Hour: \$36.53

Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Presidential Election Day

Thanksgiving Day

Christmas Day

Paid Holidays

Labor Day

Thanksgiving Day

Shift Rates

When two shifts are employed, single time rate shall be paid for each shift. When three shifts are found necessary, each shift shall work seven and one half hours (7 ½), but shall be paid for eight (8) hours of labor, and be permitted one half hour for lunch.

(Local #731)

LANDSCAPING

(Landscaping tasks, as well as tree pruning, tree removing, spraying and maintenance in connection with the planting of street trees and the planting of trees in city parks but not when such activities are performed as part of, or in connection with, other construction or reconstruction projects.)

Landscaper (Above 6 years experience)

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$27.00

Supplemental Benefit Rate per Hour: \$14.55

Landscaper (3 - 6 years experience)

Effective Period: 7/1/2015 - 6/30/2016

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Wage Rate per Hour: \$26.00

Supplemental Benefit Rate per Hour: \$14.55

Landscaper (up to 3 years experience)

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$23.50

Supplemental Benefit Rate per Hour: \$14.55

Groundperson

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$23.50

Supplemental Benefit Rate per Hour: \$14.55

Tree Remover / Pruner

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$32.00

Supplemental Benefit Rate per Hour: \$14.55

Landscaper Sprayer (Pesticide Applicator)

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$22.00

Supplemental Benefit Rate per Hour: \$14.55

Watering - Plant Maintainer

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$17.00

Supplemental Benefit Rate per Hour: \$14.55

Overtime Description

For all overtime work performed, supplemental benefits shall include an additional seventy-five (\$0.75) cents per hour.

Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Time and one half the regular rate for work on a holiday plus the day's pay.

Paid Holidays

New Year's Day

Memorial Day

Independence Day

Labor Day

Thanksgiving Day

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

Christmas Day

Shift Rates

Work performed on a 4pm to 12am shift has a 15% differential. Work performed on a 12am to 8am shift has a 20% differential.

(Local #175)

MARBLE MECHANIC

Marble Setter

Effective Period: 7/1/2015 - 12/31/2015

Wage Rate per Hour: **\$51.53**

Supplemental Benefit Rate per Hour: **\$35.73**

Effective Period: 1/1/2016 - 6/30/2016

Wage Rate per Hour: **\$51.89**

Supplemental Benefit Rate per Hour: **\$36.62**

Marble Finisher

Effective Period: 7/1/2015 - 12/31/2015

Wage Rate per Hour: **\$40.53**

Supplemental Benefit Rate per Hour: **\$34.52**

Effective Period: 1/1/2016 - 6/30/2016

Wage Rate per Hour: **\$40.80**

Supplemental Benefit Rate per Hour: **\$35.15**

Marble Polisher

Effective Period: 7/1/2015 - 12/31/2015

Wage Rate per Hour: **\$36.65**

Supplemental Benefit Rate per Hour: **\$26.63**

Effective Period: 1/1/2016 - 6/30/2016

Wage Rate per Hour: **\$37.02**

Supplemental Benefit Rate per Hour: **\$27.01**

Overtime Description

Supplemental Benefit contributions are to be made at the applicable overtime rates. Time and one half the regular rate after a 7 hour day or time and one half the regular rate after an 8 hour day - chosen by Employer at the start of the project and then would last for the full duration of the project.

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Overtime

Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day
President's Day
Good Friday
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Paid Holidays

None

(Local #7)

MASON TENDER

Mason Tender

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$36.67

Supplemental Benefit Rate per Hour: \$28.02

Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Saturday may be used as a make-up day at straight time when a day is lost during that week to inclement weather.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day
Thanksgiving Day
Christmas Day

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Paid Holidays

None

Shift Rates

The Employer may work two (2) shifts with the first shift at the straight time wage rate and the second shift receiving eight (8) hours paid for seven (7) hours work at the straight time wage rate.

(Local #79)

MASON TENDER (INTERIOR DEMOLITION WORKER)

(The erection, building, moving, servicing and dismantling of enclosures, scaffolding, barricades, protection and site safety structures etc., on Interior Demolition jobs.)

Mason Tender Tier A

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: **\$35.46**

Supplemental Benefit Rate per Hour: **\$22.13**

Mason Tender Tier B

On Interior Demolition job sites 33 1/3 % of the employees shall be classified as Tier A Interior Demolition Workers and 66 2/3 % shall be classified as Tier B Interior Demolition Workers; provided that the employer may employ more than 33 1/3 % Tier A Interior Demolition Workers on the job site. Where the number of employees on a job site is not divisible by 3, the first additional employee (above the number of employees divisible by three) shall be a Tier B Interior Demolition Worker, and the second additional employee shall be a Tier A Interior Demolition Worker.

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: **\$24.65**

Supplemental Benefit Rate per Hour: **\$16.45**

Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day

President's Day

Memorial Day

Independence Day

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Labor Day
Thanksgiving Day
Christmas Day

Paid Holidays

None

(Local #79)

METALLIC LATHER

Metallic Lather

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$43.63

Supplemental Benefit Rate per Hour: \$41.57

Supplemental Note: Supplemental benefits for overtime are paid at the appropriate overtime rate.

Overtime Description

Overtime would be time and one half the regular rate after a seven (7) or eight (8) hours workday, which would be set at the start of the job.

Overtime

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day
Washington's Birthday
Good Friday
Memorial Day
Independence Day
Labor Day
Columbus Day
Presidential Election Day
Thanksgiving Day
Christmas Day

Paid Holidays

1/2 day on Christmas Eve if work is performed in the A.M.

1/2 day on New Year's Eve if work is performed in the A.M.

Shift Rates

There shall be either two (2) or three (3) shifts, each shift shall be eight (8) hours with nine (9) hours pay, including one half (1/2) hour for lunch. Off-Hour Start shall commence after 3:30 P.M. and shall conclude by 6:00

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A.M. The first consecutive seven (7) hours shall be at straight time with a differential of twelve dollars (\$12.00) per hour. Fringes shall be paid at the straight time rate.

(Local #46)

MILLWRIGHT

Millwright

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: **\$49.50**

Supplemental Benefit Rate per Hour: **\$52.01**

Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Saturday may be used as a make-up day at straight time when a day is lost during that week to inclement weather.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day

President's Day

Good Friday

Memorial Day

Independence Day

Labor Day

Columbus Day

Presidential Election Day

Thanksgiving Day

Christmas Day

Paid Holidays

1/2 day on Christmas Eve if work is performed in the A.M.

1/2 day on New Year's Eve if work is performed in the A.M.

Shift Rates

The first shift shall receive the straight time rate of pay. The second shift receives the straight time rate of pay plus fifteen (15%) per cent. Members of the second shift shall be allowed one half hour to eat, with this time being included in the hours of the workday established. There must be a first shift to work a second shift. All additional hours worked shall be paid at the time and one-half rate of pay plus fifteen (15%) per cent for weekday hours.

(Local #740)

MOSAIC MECHANIC

Mosaic Mechanic - Mosaic & Terrazzo Mechanic

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: **\$45.91**

Supplemental Benefit Rate per Hour: **\$38.15**

Supplemental Note: Supplemental benefits for overtime to be paid at the rate of \$48.92 per hour.

Mosaic Mechanic - Mosaic & Terrazzo Finisher

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: **\$44.30**

Supplemental Benefit Rate per Hour: **\$38.14**

Supplemental Note: Supplemental benefits for overtime to be paid at the rate of \$48.91 per hour.

Mosaic Mechanic - Machine Operator Grinder

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: **\$44.30**

Supplemental Benefit Rate per Hour: **\$38.14**

Supplemental Note: Supplemental benefits for overtime to be paid at the rate of \$48.91 per hour.

Overtime

Time and one half the regular rate after a 7 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day

Washington's Birthday

Good Friday

Independence Day

Labor Day

Columbus Day

Veteran's Day

Thanksgiving Day

Day after Thanksgiving

Christmas Day

Paid Holidays

None

(Local #7)

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PAINTER

Painter - Brush & Roller

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$41.00

Supplemental Benefit Rate per Hour: \$26.37

Supplemental Note: \$31.00 on overtime

Spray & Scaffold / Decorative / Sandblast

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$44.00

Supplemental Benefit Rate per Hour: \$26.37

Supplemental Note: \$31.00 on overtime

Overtime

Time and one half the regular rate after a 7 hour day.

Time and one half the regular rate for Saturday.

Time and one half the regular rate for Sunday.

Overtime Holidays

Time and one half the regular rate for work on the following holiday(s).

New Year's Day

President's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Thanksgiving Day

Christmas Day

Paid Holidays

None

(District Council of Painters #9)

PAINTER - SIGN

Designer

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Effective Period: 7/1/2015 - 6/30/2016
Wage Rate per Hour: \$40.30
Supplemental Benefit Rate per Hour: \$7.22

Journey person

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate per Hour: \$37.48
Supplemental Benefit Rate per Hour: \$7.22

Overtime

Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Time and one half the regular rate for Sunday.
Double time the regular rate for work on the following holiday(s).

Paid Holidays

New Year's Day
Martin Luther King Jr. Day
Memorial Day
Independence Day
Labor Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day
Two (2) additional holidays as floating holidays

(Local #8A-28A)

PAINTER - STRIPER

Striper (paint)

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate per Hour: \$35.00
Supplemental Benefit Rate per Hour: \$12.27
Supplemental Note: Overtime Supplemental Benefit rate - \$8.02 New Hire Rate (0-3 months) - \$0.00

Lineperson (thermoplastic)

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate per Hour: \$39.00
Supplemental Benefit Rate per Hour: \$12.27
Supplemental Note: Overtime Supplemental Benefit rate - \$8.02; New Hire Rate (0-3 months) - \$0.00

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§220 PREVAILING WAGE SCHEDULE

Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Time and one half the regular rate for work on the following holiday(s).

Paid Holidays

New Year's Day

Good Friday

Memorial Day

Independence Day

Labor Day

Columbus Day

Presidential Election Day

Thanksgiving Day

Day after Thanksgiving

Christmas Day

Shift Rates

Employees hired before April 1, 2003: 15% night shift premium differential for work commenced at 9:00 PM or later.

Vacation

Employees with one to two years service shall accrue vacation based on hours worked: 250 hours worked - 1 day vacation; 500 hours worked - 2 days vacation; 750 hours worked - 3 days vacation; 900 hours worked - 4 days vacation; 1,000 hours worked - 5 days vacation. Employees with two to five years service receive two weeks vacation. Employees with five to twenty years service receive three weeks vacation. Employees with twenty to twenty-five years service receive four weeks vacation. Employees with 25 or more years service receive five weeks vacation. Vacation must be taken during winter months. 2 Personal Days except employees hired after 4/1/12 who do not have 2 years of service.

(Local #917)

PAINTER - STRUCTURAL STEEL

Painters on Structural Steel

Effective Period: 7/1/2015 - 9/30/2015

Wage Rate per Hour: **\$48.00**

Supplemental Benefit Rate per Hour: **\$34.58**

Effective Period: 10/1/2015 - 6/30/2016

Wage Rate per Hour: **\$49.00**

Supplemental Benefit Rate per Hour: **\$36.08**

Painter - Power Tool

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Effective Period: 7/1/2015 - 9/30/2015

Wage Rate per Hour: \$54.00

Supplemental Benefit Rate per Hour: \$34.58

Effective Period: 10/1/2015 - 6/30/2016

Wage Rate per Hour: \$55.00

Supplemental Benefit Rate per Hour: \$36.08

Overtime Description

Supplemental Benefits shall be paid for each hour worked, up to forty (40) hours per week for the period of May 1st to November 15th or up to fifty (50) hours per week for the period of November 16th to April 30th.

Overtime

Time and one half the regular rate after a 7 hour day.

Time and one half the regular rate for Saturday.

Time and one half the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s):

New Year's Day

Memorial Day

Independence Day

Labor Day

Thanksgiving Day

Christmas Day

Paid Holidays

None

Shift Rates

Regular hourly rates plus a ten per cent (10%) differential

(Local #806)

PAPERHANGER

Paperhanger

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$41.08

Supplemental Benefit Rate per Hour: \$29.23

Supplemental Note: Supplemental benefits are to be paid at the appropriate straight time and overtime rate.

Overtime

Time and one half the regular rate after a 7 hour day.

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Time and one half the regular rate for Saturday.
Time and one half the regular rate for Sunday.

Overtime Holidays

Time and one half the regular rate for work on the following holiday(s).

New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Paid Holidays

None

Shift Rates

Evening shift - 4:30 P.M. to 12:00 Midnight (regular rate of pay); any work performed before 7:00 A.M. shall be at time and one half the regular base rate of pay.

(District Council of Painters #9)

PAVER AND ROADBUILDER

Paver & Roadbuilder - Formsetter

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$44.85

Supplemental Benefit Rate per Hour: \$36.92

Paver & Roadbuilder - Laborer

Paving and road construction work, regardless of material used, including but not limited to preparation of job sites, removal of old surfaces, asphalt and/or concrete, by whatever method, including but not limited to milling; laying of concrete; laying of asphalt for temporary, patchwork, and utility paving (but not production paving); site preparation and incidental work before the installation of rubberized materials and similar surfaces; installation and repair of temporary construction fencing; slurry seal coating, maintenance of safety surfaces; play equipment installation, and other related work.

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$40.98

Supplemental Benefit Rate per Hour: \$36.92

Production Paver & Roadbuilder - Screed Person

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(Production paving is asphalt paving when using a paving machine or on a project where a paving machine is traditionally used)

Adjustment of paving machinery on production paving jobs.

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$45.45

Supplemental Benefit Rate per Hour: \$36.92

Production Paver & Roadbuilder - Raker

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$44.85

Supplemental Benefit Rate per Hour: \$36.92

Production Paver & Roadbuilder - Shoveler

General laborer (except removal of surfaces - see Paver and Roadbuilder-Laborer) including but not limited to tamper, AC paint and liquid tar work.

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$41.56

Supplemental Benefit Rate per Hour: \$36.92

Overtime Description

Veteran's Day is a Paid Holiday for employees working on production paving.

If an employee works New Year's Day or Christmas Day, they receive the single time rate plus 25%.

Employees who work on a holiday listed below receive the straight time rate plus one day's pay for the holiday.

Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Paid Holidays

Memorial Day

Independence Day

Labor Day

Presidential Election Day

Thanksgiving Day

Shift Rates

When two shifts are employed, the work period for each shift shall be a continuous eight (8) hours. When three shifts are employed, each shift will work seven and one half (7 ½) hours but will be paid for eight (8) hours since only one half (1/2) hour is allowed for meal time.

When two or more shifts are employed, single time will be paid for each shift.

Night Work - On night work, the first eight (8) hours of work will be paid for at the single time rate, except that production paving work shall be paid at 15% over the single time rate for the screed person, rakers and

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shovelers directly involved only. All other workers will be exempt. Hours worked over eight (8) hours during said shift shall be paid for at the time and one-half rate.

(Local #1010)

PLASTERER

Plasterer

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$43.43

Supplemental Benefit Rate per Hour: \$27.95

Overtime

Time and one half the regular rate after a 7 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Saturday may be used as a make-up day at straight time when a day is lost during that week to inclement weather.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day

Martin Luther King Jr. Day

President's Day

Good Friday

Memorial Day

Independence Day

Labor Day

Columbus Day

Presidential Election Day

Thanksgiving Day

Christmas Day

Paid Holidays

None

Shift Rates

When it is not possible to conduct alteration work during regular work hours, in a building occupied by tenants, said work shall proceed on a shift basis: however work over seven (7) hours in any twenty four (24) hour period, the time after seven (7) hours shall be considered overtime.

The second shift shall start at a time between 3:30 p.m. and 7:00 p.m. and shall consist of seven (7) working hours and shall receive eight (8) hours of wages and benefits at the straight time rate. The workers on the second shift shall be allowed one-half (½) hour to eat with this time being included in the seven (7) hours of work.

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(Local #530)

PLASTERER - TENDER

Plasterer - Tender

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: **\$36.67**

Supplemental Benefit Rate per Hour: **\$28.02**

Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Saturday may be used as a make-up day at straight time when a day is lost during that week to inclement weather.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day

Washington's Birthday

Memorial Day

Independence Day

Labor Day

Presidential Election Day

Thanksgiving Day

Christmas Day

Paid Holidays

None

Shift Rates

When work commences outside regular work hours, workers receive an hour additional (differential) wage and supplement payment. Eight hours pay for seven hours work or nine hours pay for eight hours work.

(Mason Tenders District Council)

PLUMBER

Plumber

Effective Period: 7/1/2015 - 6/30/2016

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Wage Rate per Hour: **\$65.27**

Supplemental Benefit Rate per Hour: **\$28.38**

Supplemental Note: Overtime supplemental benefit rate per hour: **\$56.48**

Plumber - Temporary Services

Temporary Services - When there are no Plumbers on the job site, there may be three shifts designed to cover the entire twenty-four hour period, including weekends if necessary, at the following rate straight time.

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: **\$52.24**

Supplemental Benefit Rate per Hour: **\$22.28**

Overtime Description

Double time the regular rate after a 7 hour day - unless for new construction site work where the plumbing contract price is \$1.5 million or less, the hours of labor can be 8 hours per day at the employers option. On Alteration jobs when other mechanical trades at the site are working an eighth hour at straight time, then the plumber shall also work an eighth hour at straight time.

Overtime

Double time the regular time rate for Saturday.

Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day

President's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Veteran's Day

Thanksgiving Day

Day after Thanksgiving

Christmas Day

Shift Rates

Shift work, when directly specified in public agency or authority documents where plumbing contract is \$8 million or less, will be permitted. 30% shift premium shall be paid for wages and fringe benefits for 4:00 pm and midnight shifts Monday to Friday. 50% shift premium shall be paid for wages and fringe benefits for 4:00 pm and midnight shift work performed on weekends. For shift work on holidays, double time wages and fringe benefits shall be paid.

(Plumbers Local #1)

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PLUMBER (MECHANICAL EQUIPMENT AND SERVICE)

(Mechanical Equipment and Service work shall include any repair and/or replacement of the present plumbing system.)

Plumber

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$39.27

Supplemental Benefit Rate per Hour: \$13.34

Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Time and one half the regular rate for Sunday.

Overtime Holidays

Time and one half the regular rate for work on the following holiday(s).

New Year's Day

President's Day

Memorial Day

Independence Day

Thanksgiving Day

Day after Thanksgiving

Christmas Day

Paid Holidays

None

(Plumbers Local # 1)

PLUMBER (RESIDENTIAL RATES FOR 1, 2 AND 3 FAMILY HOME CONSTRUCTION)

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$45.19

Supplemental Benefit Rate per Hour: \$20.62

Overtime

Double time the regular rate after an 8 hour day.

Double time the regular time rate for Saturday.

Double time the regular rate for Sunday.

Overtime Holidays

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Double time the regular rate for work on the following holiday(s).

New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Paid Holidays

None

Shift Rates

30% shift premium shall be paid for wages and fringe benefits for 4:00 pm and midnight shifts Monday to Friday.
50% shift premium shall be paid for wages and fringe benefits for 4:00 pm and midnight shift work performed on weekends. For shift work on holidays, double time wages and fringe benefits shall be paid.

(Plumbers Local #1)

PLUMBER: PUMP & TANK

Oil Trades (Installation and Maintenance)

Plumber - Pump & Tank

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$62.83

Supplemental Benefit Rate per Hour: \$21.37

Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Time and one half the regular rate for Sunday.

Overtime Holidays

Time and one half the regular rate for work on the following holiday(s).

New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day

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Day after Thanksgiving
Christmas Day

Paid Holidays

None

Shift Rates

All work outside the regular workday (8:00 A.M. to 3:30 P.M.) is to be paid at time and one half the regular hourly rate

(Plumbers Local #1)

POINTER - WATERPROOFER, CAULKER MECHANIC (EXTERIOR BUILDING RENOVATION)

Pointer - Waterproofer, Caulker Mechanic

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$47.41

Supplemental Benefit Rate per Hour: \$24.40

Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Time and one half the regular rate for Sunday.

Saturday may be used as a make-up day at straight time when a day is lost during that week to inclement weather.

Overtime Holidays

Time and one half the regular rate for work on the following holiday(s).

New Year's Day

Martin Luther King Jr. Day

President's Day

Memorial Day

Independence Day

Labor Day

Thanksgiving Day

Christmas Day

Paid Holidays

None

Shift Rates

All work outside the regular work day (an eight hour workday between the hours of 6:00 A.M. and 4:30 P.M.) is to be paid at time and one half the regular rate.

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(Bricklayer District Council)

ROOFER

Roofer

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: **\$40.70**

Supplemental Benefit Rate per Hour: **\$30.17**

Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Time and one half the regular rate for Sunday.

Overtime Holidays

Time and one half the regular rate for work on the following holiday(s).

New Year's Day

President's Day

Memorial Day

Independence Day

Labor Day

Presidential Election Day

Thanksgiving Day

Christmas Day

Paid Holidays

None

Shift Rates

Second shift - Regular hourly rate plus a 10% differential. Third shift - Regular hourly rate plus a 15% differential.

(Local #8)

SANDBLASTER - STEAMBLASTER (Exterior Building Renovation)

Sandblaster / Steamblaster

Effective Period: 7/1/2015 - 6/30/2016

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Wage Rate per Hour: **\$47.41**

Supplemental Benefit Rate per Hour: **\$24.40**

Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Time and one half the regular rate for Sunday.

Saturday may be used as a make-up day at straight time when a day is lost during that week to inclement weather.

Overtime Holidays

Time and one half the regular rate for work on the following holiday(s).

New Year's Day

Martin Luther King Jr. Day

President's Day

Memorial Day

Independence Day

Labor Day

Thanksgiving Day

Christmas Day

Paid Holidays

None

Shift Rates

All work outside the regular work day (an eight hour workday between the hours of 6:00 A.M. and 4:30 P.M.) is to be paid at time and one half the regular rate.

(Bricklayer District Council)

SHEET METAL WORKER

Sheet Metal Worker

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: **\$46.96**

Supplemental Benefit Rate per Hour: **\$45.19**

Supplemental Note: Supplemental benefit contributions are to be made at the applicable overtime rates.

Sheet Metal Worker - Fan Maintenance

(The temporary operation of fans or blowers in new or existing buildings for heating and/or ventilation, and/or air conditioning prior to the completion of the project.)

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: **\$37.57**

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Supplemental Benefit Rate per Hour: \$45.19

Sheet Metal Worker - Duct Cleaner

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$12.90

Supplemental Benefit Rate per Hour: \$8.07

Overtime

Time and one half the regular rate after a 7 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day

Martin Luther King Jr. Day

President's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Veteran's Day

Thanksgiving Day

Day after Thanksgiving

Christmas Day

Paid Holidays

None

Shift Rates

Work that can only be performed outside regular working hours (seven hours of work between 7:30 A.M. and 3:30 P.M.) - First shift (work between 3:30 P.M. and 11:30 P.M.) - 10% differential above the established hourly rate.
Second shift (work between 11:30 P.M. and 7:30 A.M.) - 15% differential above the established hourly rate.

For Fan Maintenance: On all full shifts of fan maintenance work the straight time hourly rate of pay will be paid for each shift, including nights, Saturdays, Sundays, and holidays.

(Local #28)

SHEET METAL WORKER - SPECIALTY
(Decking & Siding)

Sheet Metal Specialty Worker

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The first worker to perform this work must be paid at the rate of the Sheet Metal Worker. The second and third workers shall be paid the Specialty Worker Rate. The ratio of One Sheet Metal Worker, then Two Specialty Workers shall be utilized thereafter.

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: **\$42.64**

Supplemental Benefit Rate per Hour: **\$23.62**

Supplemental Note: Supplemental benefit contributions are to be made at the applicable overtime rates.

Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day

Martin Luther King Jr. Day

President's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Veteran's Day

Thanksgiving Day

Christmas Day

Paid Holidays

None

(Local #28)

SHIPYARD WORKER

Shipyard Mechanic - First Class

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: **\$27.54**

Supplemental Benefit Rate per Hour: **\$3.01**

Shipyard Mechanic - Second Class

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: **\$20.22**

Supplemental Benefit Rate per Hour: **\$2.73**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

Shipyard Laborer - First Class

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate per Hour: \$20.90
Supplemental Benefit Rate per Hour: \$2.75

Shipyard Laborer - Second Class

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate per Hour: \$13.86
Supplemental Benefit Rate per Hour: \$2.48

Shipyard Dockhand - First Class

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate per Hour: \$23.61
Supplemental Benefit Rate per Hour: \$2.86

Shipyard Dockhand - Second Class

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate per Hour: \$15.94
Supplemental Benefit Rate per Hour: \$2.56

Overtime Description

Work performed on holiday is paid double time the regular hourly wage rate plus holiday pay.

Overtime

Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.
Time and one half the regular hourly rate after 40 hours in any work week.

Paid Holidays

New Year's Day
Martin Luther King Jr. Day
President's Day
Good Friday
Memorial Day
Independence Day
Labor Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Based on Survey Data

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

SIGN ERECTOR

(Sheet Metal, Plastic, Electric, and Neon)

Sign Erector

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$45.60

Supplemental Benefit Rate per Hour: \$46.28

Overtime

Time and one half the regular rate after a 7 hour day.

Time and one half the regular rate for Saturday.

Time and one half the regular rate for Sunday.

Time and one half the regular rate for work on the following holiday(s).

Paid Holidays

New Year's Day

Washington's Birthday

Memorial Day

Independence Day

Labor Day

Columbus Day

Election Day

Thanksgiving Day

Day after Thanksgiving

Christmas Day

Shift Rates

Time and one half the regular hourly rate is to be paid for all hours worked outside the regular workday either (7:00 A.M. through 2:30 P.M.) or (8:00 A.M. through 3:30 P.M.)

(Local #137)

STEAMFITTER

Steamfitter I

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$55.00

Supplemental Benefit Rate per Hour: \$52.79

Supplemental Note: Overtime supplemental benefit rate: \$104.84

Steamfitter -Temporary Services

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

The steamfitters shall not do any other work and shall not be permitted to work more than one shift in a twenty-four hour day. When steamfitters are present during the regular working day, no temporary services steamfitter will be required

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$41.80

Supplemental Benefit Rate per Hour: \$42.76

Supplemental Note: .

Overtime

Double time the regular rate after a 7 hour day.

Double time the regular time rate for Saturday.

Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day

President's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Veteran's Day

Thanksgiving Day

Day after Thanksgiving

Christmas Day

Paid Holidays

None

Shift Rates

Work performed between 3:30 P.M. and 7:00 A.M. and on Saturdays, Sundays and Holidays shall be at double time the regular hourly rate and paid at the overtime supplemental benefit rate above.

Steamfitter II

For heating, ventilation, air conditioning and mechanical public works contracts with a dollar value not to exceed \$15,000,000 and for fire protection/sprinkler public works contracts not to exceed \$1,500,000.

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$55.00

Supplemental Benefit Rate per Hour: \$52.79

Supplemental Note: Overtime supplemental benefit rate: \$104.84

Steamfitter -Temporary Services

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

The steamfitters shall not do any other work and shall not be permitted to work more than one shift in a twenty-four hour day. When steamfitters are present during the regular working day, no temporary services steamfitter will be required.

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: **\$41.80**

Supplemental Benefit Rate per Hour: **\$42.76**

Overtime

Double time the regular rate after an 8 hour day.

Double time the regular time rate for Saturday.

Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day

President's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Veteran's Day

Thanksgiving Day

Day after Thanksgiving

Christmas Day

Paid Holidays

None

Shift Rates

May be performed outside of the regular workday except Saturday, Sunday and Holidays. A shift shall consist of eight working hours. All work performed in excess of eight hours shall be paid at double time. No shift shall commence after 7:00 P.M. on Friday or 7:00 P.M. the day before holidays. All work performed after 12:01 A.M. Saturday or 12:01 A.M. the day before a Holiday will be paid at double time. When shift work is performed the wage rate for regular time worked is a thirty percent premium together with fringe benefits.

On Transit Authority projects, where work is performed in the vicinity of tracks all shift work on weekends and holidays may be performed at the regular shift rates.

Local #638

STEAMFITTER - REFRIGERATION AND AIR CONDITIONER (Maintenance and Installation Service Person)

Refrigeration and Air Conditioner Mechanic

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$39.25

Supplemental Benefit Rate per Hour: \$13.81

Refrigeration and Air Conditioner Service Person V

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$32.25

Supplemental Benefit Rate per Hour: \$12.44

Refrigeration and Air Conditioner Service Person IV

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$26.72

Supplemental Benefit Rate per Hour: \$11.30

Refrigeration and Air Conditioner Service Person III

Filter changing and maintenance thereof, oil and greasing, tower and coil cleaning, scraping and painting, general housekeeping, taking of water samples.

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$22.93

Supplemental Benefit Rate per Hour: \$10.45

Refrigeration and Air Conditioner Service Person II

Filter changing and maintenance thereof, oil and greasing, tower and coil cleaning, scraping and painting, general housekeeping, taking of water samples.

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$19.02

Supplemental Benefit Rate per Hour: \$9.67

Refrigeration and Air Conditioner Service Person I

Filter changing and maintenance thereof, oil and greasing, tower and coil cleaning, scraping and painting, general housekeeping, taking of water samples.

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$13.91

Supplemental Benefit Rate per Hour: \$8.78

Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Overtime Holidays

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

Double time the regular rate for work on the following holiday(s).

New Year's Day
Independence Day
Labor Day
Veteran's Day
Thanksgiving Day
Christmas Day

Double time and one half the regular rate for work on the following holiday(s).

Martin Luther King Jr. Day
President's Day
Memorial Day
Columbus Day

Paid Holidays

New Year's Day
Martin Luther King Jr. Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Christmas Day

(Local #638B)

STONE MASON - SETTER

Stone Mason - Setters

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$47.20

Supplemental Benefit Rate per Hour: \$37.15

Overtime

Time and one half the regular rate after a 7 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day
Washington's Birthday
Good Friday
Memorial Day
Independence Day

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

Labor Day
Thanksgiving Day
Christmas Day

Paid Holidays

1/2 day on Christmas Eve if work is performed in the A.M.

Shift Rates

For all work outside the regular workday (8:00 A.M. to 3:30 P.M. Monday through Friday), the pay shall be straight time plus a ten percent (10%) differential.

(Bricklayers District Council)

TAPER

Drywall Taper

Effective Period: 7/1/2015 - 12/29/2015

Wage Rate per Hour: **\$46.32**

Supplemental Benefit Rate per Hour: **\$22.66**

Effective Period: 12/30/2015 - 6/30/2016

Wage Rate per Hour: **\$46.82**

Supplemental Benefit Rate per Hour: **\$22.66**

Overtime

Time and one half the regular rate after a 7 hour day.

Time and one half the regular rate for Saturday.

Time and one half the regular rate for Sunday.

Overtime Holidays

Time and one half the regular rate for work on the following holiday(s).

New Year's Day

Martin Luther King Jr. Day

President's Day

Good Friday

Memorial Day

Independence Day

Labor Day

Columbus Day

Thanksgiving Day

Christmas Day

Paid Holidays

Any worker who reports to work on Christmas Eve or New Year's Eve pursuant to his employer's instruction shall be entitled to three (3) hours afternoon pay without working.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

Shift Rates

Time and one half the regular rate outside the regular work hours (8:00 A.M. through 3:30 P.M.)

(Local #1974)

TELECOMMUNICATION WORKER
(Voice Installation Only)

Telecommunication Worker

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: **\$40.35**

Supplemental Benefit Rate per Hour: **\$13.19**

Supplemental Note: The above rate applies for Manhattan, Bronx, Brooklyn, Queens. \$12.64 for Staten Island only.

Overtime

Time and one half the regular rate after a 7 hour day.

Time and one half the regular rate for Saturday.

Time and one half the regular rate for Sunday.

Overtime Holidays

Time and one half the regular rate for work on the following holiday(s).

New Year's Day

Lincoln's Birthday

Washington's Birthday

Memorial Day

Independence Day

Labor Day

Columbus Day

Election Day

Veteran's Day

Thanksgiving Day

Christmas Day

Paid Holidays

New Year's Day

Lincoln's Birthday

Washington's Birthday

Memorial Day

Independence Day

Labor Day

Columbus Day

Election Day

Veteran's Day

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

Thanksgiving Day
Christmas Day

Employees have the option of observing either Martin Luther King's Birthday or the day after Thanksgiving instead of Lincoln's Birthday

Shift Rates

For any workday that starts before 8A.M. or ends after 6P.M. there is a 10% differential for the applicable worker's hourly rate.

Vacation

After 6 months.....one week.
After 12 months but less than 7 years.....two weeks.
After 7 or more but less than 15 years.....three weeks.
After 15 years or more but less than 25 years.....four weeks.

(C.W.A.)

TILE FINISHER

Tile Finisher

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$40.03

Supplemental Benefit Rate per Hour: \$29.71

Overtime

Time and one half the regular rate after a 7 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day

President's Day

Good Friday

Memorial Day

Independence Day

Labor Day

Columbus Day

Veteran's Day

Thanksgiving Day

Day after Thanksgiving

Christmas Day

Paid Holidays

None

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

Shift Rates

Off shift work day (work performed outside the regular 8:00 A.M. to 3:30 P.M. workday): shift differential of one and one quarter (1¼) times the regular straight time rate of pay for the seven hours of actual off-shift work.

(Local #7)

TILE LAYER - SETTER

Tile Layer - Setter

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$51.61

Supplemental Benefit Rate per Hour: \$33.46

Overtime

Time and one half the regular rate after a 7 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day

President's Day

Good Friday

Memorial Day

Independence Day

Labor Day

Columbus Day

Veteran's Day

Thanksgiving Day

Day after Thanksgiving

Christmas Day

Shift Rates

Off shift work day (work performed outside the regular 8:00 A.M. to 3:30 P.M. workday): shift differential of one and one quarter (1¼) times the regular straight time rate of pay for the seven hours of actual off-shift work.

(Local #7)

TIMBERPERSON

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

Timberperson

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$45.60

Supplemental Benefit Rate per Hour: \$46.67

Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Saturday may be used as a make-up day at straight time when a day is lost during that week to inclement weather.

Time and one half the regular hourly rate after 40 hours in any work week.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day

President's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Presidential Election Day

Thanksgiving Day

Christmas Day

Paid Holidays

None

Shift Rates

Off shift work commencing between 5:00 P.M. and 11:00 P.M. shall work eight and one half hours allowing for one half hour for lunch. The wage rate shall be 113% of the straight time hourly wage rate.

(Local #1536)

TUNNEL WORKER

Blasters, Mucking Machine Operators (Compressed Air Rates)

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$59.17

Supplemental Benefit Rate per Hour: \$49.45

Tunnel Workers (Compressed Air Rates)

Effective Period: 7/1/2015 - 6/30/2016

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

Wage Rate per Hour: \$57.12

Supplemental Benefit Rate per Hour: \$47.80

Top Nipper (Compressed Air Rates)

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$56.07

Supplemental Benefit Rate per Hour: \$46.96

Outside Lock Tender, Outside Gauge Tender, Muck Lock Tender (Compressed Air Rates)

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$55.06

Supplemental Benefit Rate per Hour: \$46.07

Bottom Bell & Top Bell Signal Person: Shaft Person (Compressed Air Rates)

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$55.06

Supplemental Benefit Rate per Hour: \$46.07

Changehouse Attendant: Powder Watchperson (Compressed Air Rates)

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$48.16

Supplemental Benefit Rate per Hour: \$43.62

Blasters (Free Air Rates)

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$56.47

Supplemental Benefit Rate per Hour: \$47.47

Tunnel Workers (Free Air Rates)

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$54.04

Supplemental Benefit Rate per Hour: \$45.45

All Others (Free Air Rates)

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$49.93

Supplemental Benefit Rate per Hour: \$42.06

Microtunneling (Free Air Rates)

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$43.23

Supplemental Benefit Rate per Hour: \$36.36

Overtime Description

For Repair-Maintenance Work on Existing Equipment and Facilities - Time and one half the regular rate after a 7 hour day, or for Saturday, or for Sunday. Double time the regular rate for work on a holiday.

For Small-Bore Micro Tunneling Machines - Time and one-half the regular rate shall be paid for all overtime.

Overtime

Double time the regular rate after an 8 hour day.

Double time the regular time rate for Saturday.

Double time the regular rate for Sunday.

Double time the regular rate for work on the following holiday(s).

Paid Holidays

New Year's Day

Lincoln's Birthday

President's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Election Day

Veteran's Day

Thanksgiving Day

Christmas Day

(Local #147)

WELDER

TO BE PAID AT THE RATE OF THE JOURNEYPERSON IN THE TRADE
PERFORMING THE WORK.

OFFICE OF THE COMPTROLLER

CITY OF NEW YORK

220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

APPENDIX

Pursuant to Labor Law §220 (3-e), only apprentices who are individually registered in a bona fide program to which the employer contractor is a participant and registered with the New York State Department of Labor, may be employed on a public work project.

Any employee listed on a payroll at an apprentice wage rate, who is not registered as above, shall be paid the journey person wage rate for the classification of work he actually performed.

Apprentice ratios are established to ensure the proper safety, training and supervision of apprentices. A ratio establishes the number of journey workers required for each apprentice in a program and on a job site. Ratios are interpreted as follows: in the case of a 1:1, 1:4 ratio, there must be one journey worker for the first apprentice, and four additional journey workers for each subsequent apprentice.

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ASBESTOS HANDLER

(Ratio of Apprentice Journeyperson: 1 to 1, 1 to 3)

Asbestos Handler (First 1000 Hours)

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate Per Hour: 78% of Journeyperson's rate

Supplemental Benefit Rate Per Hour: \$15.95

Asbestos Handler (Second 1000 Hours)

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate Per Hour: 80% of Journeyperson's rate

Supplemental Benefit Rate Per Hour: \$15.95

Asbestos Handler (Third 1000 Hours)

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate Per Hour: 83% of Journeyperson's rate

Supplemental Benefit Rate Per Hour: \$15.95

Asbestos Handler (Fourth 1000 Hours)

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate Per Hour: 89% of Journeyperson's rate

Supplemental Benefit Rate Per Hour: \$15.95

(Local #78)

BOILERMAKER

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Boilermaker (First Year)

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate Per Hour: 65% of Journeyperson's rate

Supplemental Benefit Rate Per Hour: \$30.00

Boilermaker (Second Year: 1st Six Months)

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate Per Hour: 70% of Journeyperson's rate

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
\$220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

Supplemental Benefit Rate Per Hour: \$31.66

Boilermaker (Second Year: 2nd Six Months)

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate Per Hour: 75% of Journeyperson's rate

Supplemental Benefit Rate Per Hour: \$33.32

Boilermaker (Third Year: 1st Six Months)

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate Per Hour: 80% of Journeyperson's rate

Supplemental Benefit Rate Per Hour: \$35.00

Boilermaker (Third Year: 2nd Six Months)

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate Per Hour: 85% of Journeyperson's rate

Supplemental Benefit Rate Per Hour: \$36.67

Boilermaker (Fourth Year: 1st Six Months)

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate Per Hour: 90% of Journeyperson's rate

Supplemental Benefit Rate Per Hour: \$38.34

Boilermaker (Fourth Year: 2nd Six Months)

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate Per Hour: 95% of Journeyperson's rate

Supplemental Benefit Rate Per Hour: \$40.01

(Local #5)

BRICKLAYER

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)

Bricklayer (First 750 Hours)

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate Per Hour: 50% of Journeyperson's rate

Supplemental Benefit Rate Per Hour: \$17.10

Bricklayer (Second 750 Hours)

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
\$220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate Per Hour: 60% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: \$17.10

Bricklayer (Third 750 Hours)

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate Per Hour: 70% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: \$17.10

Bricklayer (Fourth 750 Hours)

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate Per Hour: 80% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: \$17.10

Bricklayer (Fifth 750 Hours)

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate Per Hour: 90% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: \$17.10

Bricklayer (Sixth 750 Hours)

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate Per Hour: 95% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: \$17.10

(Bricklayer District Council)

CARPENTER

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)

Carpenter (First Year)

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate Per Hour: 40% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: \$31.14

Carpenter (Second Year)

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate Per Hour: 50% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: \$31.14

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

Carpenter (Third Year)

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate Per Hour: 65% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: \$31.14

Carpenter (Fourth Year)

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate Per Hour: 80% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: \$31.14

(Carpenters District Council)

CEMENT MASON

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)

Cement Mason (First Year)

Effective Period: 7/1/2015 - 6/30/2016
Wage and Supplemental Rate Per Hour: 50% of Journeyperson's Rate

Cement Mason (Second Year)

Effective Period: 7/1/2015 - 6/30/2016
Wage and Supplemental Rate Per Hour: 60% of Journeyperson's Rate

Cement Mason (Third Year)

Effective Period: 7/1/2015 - 6/30/2016
Wage and Supplemental Rate Per Hour: 70% of Journeyperson's Rate

(Local #780)

CEMENT AND CONCRETE WORKER

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Cement & Concrete Worker (First 1333 hours)

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate Per Hour: 50% of Journeyman's rate
Supplemental Benefit Rate Per Hour: \$18.84

Cement & Concrete Worker (Second 1333 hours)

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate Per Hour: 65% of Journeyman's rate
Supplemental Benefit Rate Per Hour: \$24.65

Cement & Concrete Worker (Last 1334 hours)

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate Per Hour: 80% of Journeyman's rate
Supplemental Benefit Rate Per Hour: \$25.47

(Cement Concrete Workers District Council)

DERRICKPERSON & RIGGER (STONE)
(Ratio of Apprentice to Journeyman: 1 to 1, 1 to 4)

Derrickperson & Rigger (stone) - First Year

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate Per Hour: 50% of Journeyman's rate
Supplemental Benefit Rate Per Hour: 50% of Journeyman's rate

Derrickperson & Rigger (stone) - Second Year: 1st Six Months

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate Per Hour: 70% of Journeyman's rate
Supplemental Benefit Rate Per Hour: 75% of Journeyman's rate

Derrickperson & Rigger (stone) - Second Year: 2nd Six Months

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate Per Hour: 80% of Journeyman's rate
Supplemental Benefit Rate Per Hour: 75% of Journeyman's rate

Derrickperson & Rigger (stone) - Third Year

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate Per Hour: 90% of Journeyman's rate
Supplemental Benefit Rate Per Hour: 75% of Journeyman's rate

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

(Local #197)

DOCKBUILDER/PILE DRIVER

(Ratio of Apprentice to Journeyman: 1 to 1, 1 to 6)

Dockbuilder/Pile Driver (First Year)

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate Per Hour: 40% of Journeyman's rate

Supplemental Benefit Rate Per Hour: \$31.52

Dockbuilder/Pile Driver (Second Year)

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate Per Hour: 50% of Journeyman's rate

Supplemental Benefit Rate Per Hour: \$31.52

Dockbuilder/Pile Driver (Third Year)

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate Per Hour: 65% of Journeyman's rate

Supplemental Benefit Rate Per Hour: \$31.52

Dockbuilder/Pile Driver (Fourth Year)

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate Per Hour: 80% of Journeyman's rate

Supplemental Benefit Rate Per Hour: \$31.52

(Carpenters District Council)

ELECTRICIAN

(Ratio of Apprentice to Journeyman: 1 to 1, 1 to 3)

Electrician (First Term: 0-6 Months)

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$13.00

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Supplemental Benefit Rate per Hour: \$11.61
Overtime Supplemental Rate Per Hour: \$12.47

Electrician (First Term: 7-12 Months)

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate per Hour: \$14.00
Supplemental Benefit Rate per Hour: \$12.12
Overtime Supplemental Rate Per Hour: \$13.04

Electrician (Second Term: 0-6 Months)

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate per Hour: \$15.00
Supplemental Benefit Rate per Hour: \$12.63
Overtime Supplemental Rate Per Hour: \$13.62

Electrician (Second Term: 7-12 Months)

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate per Hour: \$16.00
Supplemental Benefit Rate per Hour: \$13.14
Overtime Supplemental Rate Per Hour: \$14.19

Electrician (Third Term: 0-6 Months)

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate per Hour: \$17.00
Supplemental Benefit Rate per Hour: \$13.65
Overtime Supplemental Rate Per Hour: \$14.77

Electrician (Third Term: 7-12 Months)

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate per Hour: \$18.00
Supplemental Benefit Rate per Hour: \$14.16
Overtime Supplemental Rate Per Hour: \$15.34

Electrician (Fourth Term: 0-6 Months)

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate per Hour: \$19.00
Supplemental Benefit Rate per Hour: \$14.67
Overtime Supplemental Rate Per Hour: \$15.92

Electrician (Fourth Term: 7-12 Months)

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate per Hour: \$21.00

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Supplemental Benefit Rate per Hour: \$15.68
Overtime Supplemental Rate Per Hour: \$17.07

Electrician (Fifth Term: 0-12 Months - Hired on or after 5/10/07)

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate per Hour: \$23.00
Supplemental Benefit Rate per Hour: \$18.56
Overtime Supplemental Rate Per Hour: \$20.00

Electrician (Fifth Term: 13-18 Months - Hired on or after 5/10/07)

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate per Hour: \$27.50
Supplemental Benefit Rate per Hour: \$20.82
Overtime Supplemental Rate Per Hour: \$22.54

Electrician (Fifth Term: 0-18 Months - Hired before 5/10/07)

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate per Hour: \$26.80
Supplemental Benefit Rate per Hour: \$20.46
Overtime Supplemental Rate Per Hour: \$22.14

Overtime Description

Overtime Wage paid at time and one half the regular rate
For "A" rated Apprentices (work in excess of 7 hours per day)
For "M" rated Apprentices (work in excess of 8 hours per day)

(Local #3)

ELEVATOR CONSTRUCTOR

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 2)

Elevator (Constructor) - First Year

Effective Period: 7/1/2015 - 3/16/2016
Wage Rate Per Hour: 50% of Journeyperson's rate
Supplemental Rate Per Hour: \$26.94

Effective Period: 3/17/2016 - 6/30/2016
Wage Rate Per Hour: 50% of Journeyperson's rate
Supplemental Rate Per Hour: \$28.41

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Elevator (Constructor) - Second Year

Effective Period: 7/1/2015 - 3/16/2016
Wage Rate Per Hour: 55% of Journeyperson's rate
Supplemental Rate Per Hour: \$27.35

Effective Period: 3/17/2016 - 6/30/2016
Wage Rate Per Hour: 55% of Journeyperson's rate
Supplemental Rate Per Hour: \$28.84

Elevator (Constructor) - Third Year

Effective Period: 7/1/2015 - 3/16/2016
Wage Rate Per Hour: 65% of Journeyperson's rate
Supplemental Rate Per Hour: \$28.17

Effective Period: 3/17/2016 - 6/30/2016
Wage Rate Per Hour: 65% of Journeyperson's rate
Supplemental Rate Per Hour: \$29.69

Elevator (Constructor) - Fourth Year

Effective Period: 7/1/2015 - 3/16/2016
Wage Rate Per Hour: 75% of Journeyperson's rate
Supplemental Rate Per Hour: \$29.00

Effective Period: 3/17/2016 - 6/30/2016
Wage Rate Per Hour: 75% of Journeyperson's rate
Supplemental Rate Per Hour: \$30.54

(Local #1)

ELEVATOR REPAIR & MAINTENANCE

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 2)

Elevator Service/Modernization Mechanic (First Year)

Effective Period: 7/1/2015 - 3/16/2016
Wage Rate Per Hour: 50% of Journeyperson's rate
Supplemental Benefit Per Hour: \$26.87

Effective Period: 3/17/2016 - 6/30/2016
Wage Rate Per Hour: 50% of Journeyperson's rate
Supplemental Benefit Per Hour: \$28.34

Elevator Service/Modernization Mechanic (Second Year)

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Effective Period: 7/1/2015 - 3/16/2016
Wage Rate Per Hour: 55% of Journeyperson's rate
Supplemental Benefit Per Hour: \$27.27

Effective Period: 3/17/2016 - 6/30/2016
Wage Rate Per Hour: 55% of Journeyperson's rate
Supplemental Benefit Per Hour: \$28.76

Elevator Service/Modernization Mechanic (Third Year)

Effective Period: 7/1/2015 - 3/16/2016
Wage Rate Per Hour: 65% of Journeyperson's rate
Supplemental Benefit Per Hour: \$28.08

Effective Period: 3/17/2016 - 6/30/2016
Wage Rate Per Hour: 65% of Journeyperson's rate
Supplemental Benefit Per Hour: \$29.60

Elevator Service/Modernization Mechanic (Fourth Year)

Effective Period: 7/1/2015 - 3/16/2016
Wage Rate Per Hour: 75% of Journeyperson's rate
Supplemental Benefit Per Hour: \$28.89

Effective Period: 3/17/2016 - 6/30/2016
Wage Rate Per Hour: 75% of Journeyperson's rate
Supplemental Benefit Per Hour: \$30.43

(Local #1)

ENGINEER

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 5)

Engineer - First Year

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate per Hour: \$23.68
Supplemental Benefit Rate per Hour: \$22.55

Engineer - Second Year

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate per Hour: \$29.60
Supplemental Benefit Rate per Hour: \$22.55

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Engineer - Third Year

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: **\$32.56**

Supplemental Benefit Rate per Hour: **\$22.55**

Engineer - Fourth Year

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: **\$35.52**

Supplemental Benefit Rate per Hour: **\$22.55**

(Local #15)

ENGINEER - OPERATING

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 5)

Operating Engineer - First Year

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate Per Hour 40% of Journeyperson's Rate

Supplemental Benefit Per Hour: **\$20.15**

Operating Engineer - Second Year

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate Per Hour: 50% of Journeyperson's Rate

Supplemental Benefit Per Hour: **\$20.15**

Operating Engineer - Third Year

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate Per Hour: 60% of Journeyperson's Rate

Supplemental Benefit Per Hour: **\$20.15**

(Local #14)

FLOOR COVERER

(Ratio of Apprentice to Journeyman: 1 to 1, 1 to 4)

Floor Coverer (First Year)

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate Per Hour: 40% of Journeyman's rate

Supplemental Rate Per Hour: \$31.14

Floor Coverer (Second Year)

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate Per Hour: 50% of Journeyman's rate

Supplemental Rate Per Hour: \$31.14

Floor Coverer (Third Year)

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate Per Hour: 65% of Journeyman's rate

Supplemental Rate Per Hour: \$31.14

Floor Coverer (Fourth Year)

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate Per Hour: 80% of Journeyman's rate

Supplemental Rate Per Hour: \$31.14

(Carpenters District Council)

GLAZIER

(Ratio of Apprentice to Journeyman: 1 to 1, 1 to 3)

Glazier (First Year)

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate Per Hour: 40% of Journeyman's rate

Supplemental Rate Per Hour: \$13.64

Effective 11/1/2015 - Supplemental Rate Per Hour: \$13.79

Glazier (Second Year)

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate Per Hour: 50% of Journeyman's rate

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Supplemental Rate Per Hour: \$22.97

Effective 11/1/2015 - Supplemental Rate Per Hour: \$23.13

Glazier (Third Year)

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate Per Hour: 60% of Journeyman's rate

Supplemental Rate Per Hour: \$25.87

Effective 11/1/2015 - Supplemental Rate Per Hour: \$26.03

Glazier (Fourth Year)

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate Per Hour: 80% of Journeyman's rate

Supplemental Rate Per Hour: \$31.04

Effective 11/1/2015 - Supplemental Rate Per Hour: \$31.29

(Local #1281)

HEAT & FROST INSULATOR

(Ratio of Apprentice to Journeyman: 1 to 1, 1 to 4)

Heat & Frost Insulator (First Year)

Effective Period: 7/1/2015 - 6/30/2016

Wage and Supplemental Rate Per Hour: 40% of Journeyman's rate

Heat & Frost Insulator (Second Year)

Effective Period: 7/1/2015 - 6/30/2016

Wage and Supplemental Rate Per Hour: 60% of Journeyman's rate

Heat & Frost Insulator (Third Year)

Effective Period: 7/1/2015 - 6/30/2016

Wage and Supplemental Rate Per Hour: 70% of Journeyman's rate

Heat & Frost Insulator (Fourth Year)

Effective Period: 7/1/2015 - 6/30/2016

Wage and Supplemental Rate Per Hour: 80% of Journeyman's rate

(Local #12)

HOUSE WRECKER
(TOTAL DEMOLITION)
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

House Wrecker - First Year

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate per Hour: \$21.17
Supplemental Benefit Rate per Hour: \$17.33

House Wrecker - Second Year

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate per Hour: \$22.32
Supplemental Benefit Rate per Hour: \$17.33

House Wrecker - Third Year

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate per Hour: \$23.97
Supplemental Benefit Rate per Hour: \$17.33

House Wrecker - Fourth Year

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate per Hour: \$26.53
Supplemental Benefit Rate per Hour: \$17.33

(Mason Tenders District Council)

IRON WORKER - ORNAMENTAL
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)

Iron Worker (Ornamental) - 1st Ten Months

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate Per Hour: 50% of Journeyperson's rate
Supplemental Rate Per Hour: \$36.50

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Iron Worker (Ornamental) - 11 -16 Months

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate Per Hour: 55% of Journeyperson's rate
Supplemental Rate Per Hour: \$37.62

Iron Worker (Ornamental) - 17 - 22 Months

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate Per Hour: 60% of Journeyperson's rate
Supplemental Rate Per Hour: \$38.73

Iron Worker (Ornamental) - 23 - 28 Months

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate Per Hour: 70% of Journeyperson's rate
Supplemental Rate Per Hour: \$40.97

Iron Worker (Ornamental) - 29 - 36 Months

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate Per Hour: 80% of Journeyperson's rate
Supplemental Rate Per Hour: \$43.20

(Local #580)

IRON WORKER - STRUCTURAL
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 6)

Iron Worker (Structural) - 1st Six Months

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate per Hour: \$25.48
Supplemental Benefit Rate per Hour: \$46.83

Iron Worker (Structural) - 7- 18 Months

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate per Hour: \$26.08
Supplemental Benefit Rate per Hour: \$46.83

Iron Worker (Structural) - 19 - 36 months

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Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$26.68

Supplemental Benefit Rate per Hour: \$46.83

(Local #40 and #361)

**LABORER (FOUNDATION, CONCRETE, EXCAVATING, STREET PIPE
LAYER & COMMON)**

(Ratio Apprentice to Journeyperson: 1 to 1, 1 to 3)

**Laborer (Foundation, Concrete, Excavating, Street Pipe Layer & Common) - First
1000 hours**

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate Per Hour: 50% of Journeyperson's rate

Supplemental Rate Per Hour: \$36.53

**Laborer (Foundation, Concrete, Excavating, Street Pipe Layer & Common) -
Second 1000 hours**

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate Per Hour: 60% of Journeyperson's rate

Supplemental Rate Per Hour: \$36.53

**Laborer (Foundation, Concrete, Excavating, Street Pipe Layer & Common) -
Third 1000 hours**

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate Per Hour: 75% of Journeyperson's rate

Supplemental Rate Per Hour: \$36.53

**Laborer (Foundation, Concrete, Excavating, Street Pipe Layer & Common) -
Fourth 1000 hours**

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate Per Hour: 90% of Journeyperson's rate

Supplemental Rate Per Hour: \$36.53

(Local #731)

MARBLE MECHANICS

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)

Cutters & Setters - First 750 Hours

Effective Period: 7/1/2015 - 6/30/2016

Wage and Supplemental Rate Per Hour: 50% of Journeyperson's rate

NO BENEFITS PAID DURING THE FIRST TWO MONTHS (PROBATIONARY PERIOD)

Cutters & Setters - Second 750 Hours

Effective Period: 7/1/2015 - 6/30/2016

Wage and Supplemental Rate Per Hour: 55% of Journeyperson's rate

Cutters & Setters - Third 750 Hours

Effective Period: 7/1/2015 - 6/30/2016

Wage and Supplemental Rate Per Hour: 65% of Journeyperson's rate

Cutters & Setters - Fourth 750 Hours

Effective Period: 7/1/2015 - 6/30/2016

Wage and Supplemental Rate Per Hour: 75% of Journeyperson's rate

Cutters & Setters - Fifth 750 Hours

Effective Period: 7/1/2015 - 6/30/2016

Wage and Supplemental Rate Per Hour: 85% of Journeyperson's rate

Cutters & Setters - Sixth 750 Hours

Effective Period: 7/1/2015 - 6/30/2016

Wage and Supplemental Rate Per Hour: 95% of Journeyperson's rate

Polishers & Finishers - First 750 Hours

Effective Period: 7/1/2015 - 6/30/2016

Wage and Supplemental Rate Per Hour: 50% of Journeyperson's rate

NO BENEFITS PAID DURING THE FIRST TWO MONTHS (PROBATIONARY PERIOD)

Polishers & Finishers - Second 750 Hours

Effective Period: 7/1/2015 - 6/30/2016

Wage and Supplemental Rate Per Hour: 60% of Journeyperson's rate

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Polishers & Finishers - Third 750 Hours

Effective Period: 7/1/2015 - 6/30/2016

Wage and Supplemental Rate Per Hour: 75% of Journeyperson's rate

Polishers & Finishers - Fourth 750 Hours

Effective Period: 7/1/2015 - 6/30/2016

Wage and Supplemental Rate Per Hour: 90% of Journeyperson's rate

(Local #7)

MASON TENDER

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Mason Tender - First Year

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$21.39

Supplemental Benefit Rate per Hour: \$18.44

Mason Tender - Second Year

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$22.54

Supplemental Benefit Rate per Hour: \$18.44

Mason Tender - Third Year

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$24.29

Supplemental Benefit Rate per Hour: \$18.49

Mason Tender - Fourth Year

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$26.95

Supplemental Benefit Rate per Hour: \$18.49

(Local #79)

METALLIC LATHER

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Metallic Lather (First Year -Called Prior to 6/29/11)

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$29.41

Supplemental Benefit Rate per Hour: \$22.89

Metallic Lather (Second Year - Called Prior to 6/29/11)

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$34.01

Supplemental Benefit Rate per Hour: \$24.54

Metallic Lather (Third Year - Called Prior to 6/29/11)

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$39.07

Supplemental Benefit Rate per Hour: \$25.69

Metallic Lather (First Year -Called On Or After 6/29/11)

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$23.01

Supplemental Benefit Rate per Hour: \$17.95

Metallic Lather (Second Year - Called On Or After 6/29/11)

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$28.11

Supplemental Benefit Rate per Hour: \$17.95

Metallic Lather (Third Year - Called On Or After 6/29/11)

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$33.21

Supplemental Benefit Rate per Hour: \$17.95

(Local #46)

MILLWRIGHT

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)

Millwright (First Year)

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$27.23

Supplemental Benefit Rate per Hour: \$34.06

Millwright (Second Year)

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$32.18

Supplemental Benefit Rate per Hour: \$37.62

Millwright (Third Year)

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$37.13

Supplemental Benefit Rate per Hour: \$41.83

Millwright (Fourth Year)

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$47.03

Supplemental Benefit Rate per Hour: \$48.31

(Local #740)

PAVER AND ROADBUILDER

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Paver and Roadbuilder - First Year (Minimum 1000 hours)

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$27.05

Supplemental Benefit Rate per Hour: \$17.12

Paver and Roadbuilder - Second Year (Minimum 1000 hours)

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Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$28.69

Supplemental Benefit Rate per Hour: \$17.12

(Local #1010)

PAINTER

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Painter - Brush & Roller - First Year

Effective Period: 7/1/2015 - 10/31/2015

Wage Rate per Hour: \$15.80

Supplemental Benefit Rate per Hour: \$11.88

Effective Period: 11/1/2015 - 6/30/2016

Wage Rate per Hour: \$16.40

Supplemental Benefit Rate per Hour: \$12.13

Painter - Brush & Roller - Second Year

Effective Period: 7/1/2015 - 10/31/2015

Wage Rate per Hour: \$19.75

Supplemental Benefit Rate per Hour: \$15.73

Effective Period: 11/1/2015 - 6/30/2016

Wage Rate per Hour: \$20.50

Supplemental Benefit Rate per Hour: \$15.98

Painter - Brush & Roller - Third Year

Effective Period: 7/1/2015 - 10/31/2015

Wage Rate per Hour: \$23.70

Supplemental Benefit Rate per Hour: \$18.64

Effective Period: 11/1/2015 - 6/30/2016

Wage Rate per Hour: \$24.60

Supplemental Benefit Rate per Hour: \$18.89

Painter - Brush & Roller - Fourth Year

Effective Period: 7/1/2015 - 10/31/2015

Wage Rate per Hour: \$31.60

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Supplemental Benefit Rate per Hour: \$24.02

Effective Period: 11/1/2015 - 6/30/2016

Wage Rate per Hour: \$32.80

Supplemental Benefit Rate per Hour: \$24.27

(District Council of Painters)

PAINTER - STRUCTURAL STEEL

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Painters - Structural Steel (First Year)

Effective Period: 7/1/2015 - 6/30/2016

Wage and Supplemental Rate Per Hour: 40% of Journeyperson's rate

Painters - Structural Steel (Second Year)

Effective Period: 7/1/2015 - 6/30/2016

Wage and Supplemental Rate Per Hour: 60% of Journeyperson's rate

Painters - Structural Steel (Third Year)

Effective Period: 7/1/2015 - 6/30/2016

Wage and Supplemental Rate Per Hour: 80% of Journeyperson's rate

(Local #806)

PLASTERER

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Plasterer - First Year: 1st Six Months

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate Per Hour: 40% of Journeyperson's rate

Supplemental Rate Per Hour: \$15.76

Plasterer - First Year: 2nd Six Months

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Effective Period: 7/1/2015 - 6/30/2016
Wage Rate Per Hour: 45% of Journeyperson's rate
Supplemental Rate Per Hour: \$16.24

Plasterer - Second Year: 1st Six Months

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate Per Hour: 55% of Journeyperson's rate
Supplemental Rate Per Hour: \$18.21

Plasterer - Second Year: 2nd Six Months

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate Per Hour: 60% of Journeyperson's rate
Supplemental Rate Per Hour: \$19.29

Plasterer - Third Year: 1st Six Months

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate Per Hour: 70% of Journeyperson's rate
Supplemental Rate Per Hour: \$21.46

Plasterer - Third Year: 2nd Six Months

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate Per Hour: 75% of Journeyperson's rate
Supplemental Rate Per Hour: \$22.54

(Local #530)

PLUMBER

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Plumber - First Year: 1st Six Months

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate per Hour: \$14.00
Supplemental Benefit Rate per Hour: \$0.71

Plumber - First Year: 2nd Six Months

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate per Hour: \$14.00

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Supplemental Benefit Rate per Hour: \$2.96

Plumber - Second Year

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$23.87

Supplemental Benefit Rate per Hour: \$12.76

Plumber - Third Year

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$25.97

Supplemental Benefit Rate per Hour: \$12.76

Plumber - Fourth Year

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$28.82

Supplemental Benefit Rate per Hour: \$12.76

Plumber - Fifth Year: 1st Six Months

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$30.22

Supplemental Benefit Rate per Hour: \$12.76

Plumber - Fifth Year: 2nd Six Months

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$42.29

Supplemental Benefit Rate per Hour: \$12.76

(Plumbers Local #1)

**POINTER - WATERPROOFER, CAULKER MECHANIC (EXTERIOR
BUILDING RENOVATION)**

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)

Pointer - Waterproofer, Caulker Mechanic - First Year

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$25.01

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Supplemental Benefit Rate per Hour: \$4.75

Pointer - Waterproofer, Caulker Mechanic - Second Year

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$27.25

Supplemental Benefit Rate per Hour: \$9.70

Pointer - Waterproofer, Caulker Mechanic - Third Year

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$32.24

Supplemental Benefit Rate per Hour: \$12.45

Pointer - Waterproofer, Caulker Mechanic - Fourth Year

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate per Hour: \$38.66

Supplemental Benefit Rate per Hour: \$12.45

(Bricklayer District Council)

ROOFER

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 2)

Roofer - First Year

Effective Period: 7/1/2015 - 6/30/2016

Wage and Supplemental Rate Per Hour: 35% of Journeyperson's Rate

Roofer - Second Year

Effective Period: 7/1/2015 - 6/30/2016

Wage and Supplemental Rate Per Hour: 50% of Journeyperson's Rate

Roofer - Third Year

Effective Period: 7/1/2015 - 6/30/2016

Wage and Supplemental Rate Per Hour: 60% of Journeyperson's Rate

Roofer - Fourth Year

Effective Period: 7/1/2015 - 6/30/2016

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\$220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

Wage and Supplemental Rate Per Hour: 75% of Journeyperson's Rate

(Local #8)

SHEET METAL WORKER

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Sheet Metal Worker (0-6 Months)

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate Per Hour: 25% of Journeyperson's rate

Supplemental Rate Per Hour: \$6.24

Sheet Metal Worker (7-18 Months)

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate Per Hour: 35% of Journeyperson's rate

Supplemental Rate Per Hour: \$16.71

Sheet Metal Worker (19-30 Months)

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate Per Hour: 45% of Journeyperson's rate

Supplemental Rate Per Hour: \$23.00

Sheet Metal Worker (31-36 Months)

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate Per Hour: 55% of Journeyperson's rate

Supplemental Rate Per Hour: \$27.02

Sheet Metal Worker (37-42 Months)

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate Per Hour: 60% of Journeyperson's rate

Supplemental Rate Per Hour: \$29.06

Sheet Metal Worker (43-48 Months)

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate Per Hour: 70% of Journeyperson's rate

Supplemental Rate Per Hour: \$33.10

Sheet Metal Worker (49-54 Months)

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\$220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate Per Hour: 75% of Journeyman's rate

Supplemental Rate Per Hour: \$35.12

Sheet Metal Worker (55-60 Months)

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate Per Hour: 80% of Journeyman's rate

Supplemental Rate Per Hour: \$37.15

(Local #28)

SIGN ERECTOR

(Ratio of Apprentice to Journeyman: 1 to 1, 1 to 4)

Sign Erector - First Year: 1st Six Months

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate Per Hour: 35% of Journeyman's rate

Supplemental Rate Per Hour: \$13.18

Sign Erector - First Year: 2nd Six Months

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate Per Hour: 40% of Journeyman's rate

Supplemental Rate Per Hour: \$14.95

Sign Erector - Second Year: 1st Six Months

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate Per Hour: 45% of Journeyman's rate

Supplemental Rate Per Hour: \$16.74

Sign Erector - Second Year: 2nd Six Months

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate Per Hour: 50% of Journeyman's rate

Supplemental Rate Per Hour: \$18.52

Sign Erector - Third Year: 1st Six Months

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate Per Hour: 55% of Journeyman's rate

Supplemental Rate Per Hour: \$24.94

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Sign Erector - Third Year: 2nd Six Months

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate Per Hour: 60% of Journeyman's rate
Supplemental Rate Per Hour: \$26.87

Sign Erector - Fourth Year: 1st Six Months

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate Per Hour: 65% of Journeyman's rate
Supplemental Rate Per Hour: \$29.47

Sign Erector - Fourth Year: 2nd Six Months

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate Per Hour: 70% of Journeyman's rate
Supplemental Rate Per Hour: \$31.46

Sign Erector - Fifth Year

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate Per Hour: 75% of Journeyman's rate
Supplemental Rate Per Hour: \$33.43

Sign Erector - Sixth Year

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate Per Hour: 80% of Journeyman's rate
Supplemental Rate Per Hour: \$35.41

(Local #137)

STEAMFITTER

(Ratio of Apprentice to Journeyman: 1 to 1, 1 to 3)

Steamfitter - First Year

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate and Supplemental Per Hour: 40% of Journeyman's rate

Steamfitter - Second Year

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate and Supplemental Rate Per Hour: 50% of Journeyman's rate.

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\$220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

Steamfitter - Third Year

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate and Supplemental Rate per Hour: 65% of Journeyperson's rate.

Steamfitter - Fourth Year

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate and Supplemental Rate Per Hour: 80% of Journeyperson's rate.

Steamfitter - Fifth Year

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate and Supplemental Rate Per Hour: 85% of Journeyperson's rate.

(Local #638)

STONE MASON - SETTER

(Ratio Apprentice of Journeyperson: 1 to 1, 1 to 2)

Stone Mason - Setters - First 750 Hours

Effective Period: 7/1/2015 - 6/30/2016

Wage and Supplemental Rate Per Hour: 50% of Journeyperson's rate

Stone Mason - Setters - Second 750 Hours

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate Per Hour: 60% of Journeyperson's rate

Supplemental Rate Per Hour: 50% of Journeyperson's rate

Stone Mason - Setters - Third 750 Hours

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate Per Hour: 70% of Journeyperson's rate

Supplemental Rate Per Hour: 50% of Journeyperson's rate

Stone Mason - Setters - Fourth 750 Hours

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate Per Hour: 80% of Journeyperson's rate

Supplemental Rate Per Hour: 50% of Journeyperson's rate

Stone Mason - Setters - Fifth 750 Hours

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Effective Period: 7/1/2015 - 6/30/2016

Wage Rate Per Hour: 90% of Journeyperson's rate

Supplemental Rate Per Hour: 50% of Journeyperson's rate

Stone Mason - Setters - Sixth 750 Hours

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate Per Hour: 100% of Journeyperson's rate

Supplemental Rate Per Hour: 50% of Journeyperson's rate

(Bricklayers District Council)

TAPER

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)

Drywall Taper - First Year

Effective Period: 7/1/2015 - 6/30/2016

Wage and Supplemental Rate Per Hour: 40% of Journeyperson's rate

Drywall Taper - Second Year

Effective Period: 7/1/2015 - 6/30/2016

Wage and Supplemental Rate Per Hour: 60% of Journeyperson's rate

Drywall Taper - Third Year

Effective Period: 7/1/2015 - 6/30/2016

Wage and Supplemental Rate Per Hour: 80% of Journeyperson's rate

(Local #1974)

TILE LAYER - SETTER

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)

Tile Layer - Setter - First 750 Hours

Effective Period: 7/1/2015 - 6/30/2016

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Wage and Supplemental Rate Per Hour: 50% of Journeyperson's rate

Tile Layer - Setter - Second 750 Hours

Effective Period: 7/1/2015 - 6/30/2016

Wage and Supplemental Rate Per Hour: 55% of Journeyperson's rate

Tile Layer - Setter - Third 750 Hours

Effective Period: 7/1/2015 - 6/30/2016

Wage and Supplemental Rate Per Hour: 65% of Journeyperson's rate

Tile Layer - Setter - Fourth 750 Hours

Effective Period: 7/1/2015 - 6/30/2016

Wage and Supplemental Rate Per Hour: 75% of Journeyperson's rate

Tile Layer - Setter - Fifth 750 Hours

Effective Period: 7/1/2015 - 6/30/2016

Wage and Supplemental Rate Per Hour: 85% of Journeyperson's rate

Tile Layer - Setter - Sixth 750 Hours

Effective Period: 7/1/2015 - 6/30/2016

Wage and Supplemental Rate Per Hour: 95% of Journeyperson's rate

(Local #7)

TIMBERPERSON

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 6)

Timberperson - First Year

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate Per Hour: 40% of Journeyperson's rate

Supplemental Rate Per Hour: \$31.54

Timberperson - Second Year

Effective Period: 7/1/2015 - 6/30/2016

Wage Rate Per Hour: 50% of Journeyperson's rate

Supplemental Rate Per Hour: \$31.54

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Timberperson - Third Year

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate Per Hour: 65% of Journeyperson's rate
Supplemental Rate Per Hour: \$31.54

Timberperson - Fourth Year

Effective Period: 7/1/2015 - 6/30/2016
Wage Rate Per Hour: 80% of Journeyperson's rate
Supplemental Rate Per Hour: \$31.54

(Local #1536)



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**DDC STANDARD GENERAL CONDITIONS
FOR SINGLE CONTRACT PROJECTS**



NEW YORK CITY DEPARTMENT OF
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SECTION 01 10 00

SUMMARY

PART I – GENERAL

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].
- B. Addendum to the General Conditions: These General Conditions include and are supplemented by the Addendum to the General Conditions (the "Addendum"). The Addendum includes the following: (1) schedules referred to in these General Conditions (Schedule A through F), (2) information regarding the applicability of various articles, and (3) amended articles, if any.

1.2 SUMMARY:

- A. This section includes the following:
 - 1. Scope and Intent
 - 2. Provisions Referenced in the Contract
 - 3. Performance of Work During Non-Regular Work Hours (Pursuant to a Change Order)
 - 4. Interruption of Services at Existing Facilities

1.3 DEFINITIONS:

- A. Refer to Article 2 of the Contract for definition of terms, words and expressions used in the General Conditions not otherwise defined herein.
- B. Design Consultant: "Design Consultant" shall mean the entity responsible for providing design services for the Project, including without limitation, preparing the construction documents (drawings and specifications) and providing services in connection with such documents during construction. The entity serving as the "Design Consultant" may be a corporation, firm, partnership, joint venture, individual or combination thereof. Such entity may be either an employee(s) of the City or an entity engaged by the City to provide such services.

1.4 SCOPE AND INTENT:

- A. Description of Project: Refer to the Addendum for a description of the project.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 1.4 B

- B. LEED: The City of New York will seek U.S. Green Building Council (USGBC) LEED (Leadership in Energy and Environmental Design) certification for this Project as specified in Section 01 81 13, "SUSTAINABLE DESIGN REQUIREMENTS FOR LEED BUILDINGS" and the Addendum to the General Conditions.



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REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 1.4 C

- C. COMMISSIONING: The project will be commissioned by an independent third party under separate contract with the City of New York. Commissioning shall be in accordance with ASHRAE and USGBC LEED-NC procedures, as described in Section 01 91 13, GENERAL COMMISSIONING REQUIREMENTS, and the Addendum to the General Conditions. The Contractor shall cooperate with the commissioning agent and provide whatever assistance is required.
- D. PROGRESS SCHEDULE: Refer to Section 01 32 00 CONSTRUCTION PROGRESS DOCUMENTATION for requirements of the project.
- E. COMPLETION OF WORK: Work to be done under the Contract is comprised of the furnishing of all labor, materials, equipment and other appurtenances, and obtaining all regulatory agency approvals necessary and required to complete the construction work in accordance with the Contract.
- F. OMISSION OF DETAILS: All work called for in the Specifications applicable to the Contract but not shown on the Contract Drawings in their present form, or vice versa, is required, and shall be performed by the Contractor as though it were originally delineated or described. The cost of such work shall be deemed included in the total Contract Price.
- G. WORK NOT IN SPECIFICATIONS OR CONTRACT DRAWINGS: Work not particularly specified in the Specifications nor detailed on the Contract Drawings but involved in carrying out their intent or in the complete and proper execution of the work, is required, and shall be performed by the Contractor. The cost of such work shall be deemed included in the total Contract Price.
- H. SILENCE OF THE SPECIFICATIONS: The apparent silence of the Specifications as to any detail, or the apparent omission from them of a detailed description concerning any work to be done and materials to be furnished, shall be regarded as meaning that only the best practice is to prevail and that only the best material and workmanship is to be used and interpretation of the Specifications shall be made upon that basis.
- I. CONFLICT BETWEEN CONTRACT DRAWINGS AND SPECIFICATIONS: Should any conflict occur in or between the Drawings and Specifications, the Contractor shall be deemed to have estimated the most expensive way of doing the work unless the Contractor shall have asked for and obtained a decision in writing from the Commissioner before the submission of the bid as to what shall govern.

1.5 CONTRACT DRAWINGS AND SPECIFICATIONS:

- A. SCHEDULE C - The Contract Drawings are listed in Schedule C, which is set forth in the Addendum. Such drawings referred to in the Contract, and in the applicable Specifications for the Contract, bear the general title:

City of New York
Department of Design and Construction
Division of Public Buildings
- B. DOCUMENTS FURNISHED TO THE CONTRACTOR - After the award of the Contract, the Contractor will be furnished with five (5) complete sets of paper prints of all Contract Drawings mentioned in Paragraph A above, as well as a copy of the Specifications.
- C. ADDITIONAL COPIES of Drawings and Specifications, when requested, will be furnished to the Contractor if available.



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- D. **SUPPLEMENTARY DRAWINGS** - When, in the opinion of the Commissioner, it becomes necessary to more fully explain the work to be done, or to illustrate the work further, or to show any changes which may be required, drawings known as Supplementary Drawings will be prepared by the Commissioner.
- E. **COMPENSATION** - Where Supplementary Drawings entail extra work, compensation therefore to the Contractor shall be subject to the terms of the Contract. The Supplementary Drawings shall be binding upon the Contractor with the same force as the Contract Drawings.
- F. **SUPPLEMENTARY DRAWING PRINTS** - Three (3) copies of prints of these Supplementary Drawings will be furnished to the Contractor.
- G. **COPIES TO SUBCONTRACTORS** - The Contractor shall furnish each of its subcontractors and material suppliers such copies of Contract Drawings, Supplementary Drawings, or copies of the Specifications as may be required for its work.

1.6 COORDINATION:

- A. **COORDINATION AND COOPERATION** - The Contractor shall consult and study the requirements of the Contract Drawings and Specifications for all required work, including all work to be performed by trade subcontractors, so that the Contractor may become acquainted with the work of the project as a whole in order to achieve the proper coordination and cooperation necessary for the efficient and timely performance of the work.
- B. **CONTRACTOR TO CHECK DRAWINGS:** - The Contractor shall verify all dimensions, quantities and details shown on the Contract Drawings, Schedules, or other data received from the Commissioner, and shall notify the Commissioner of all errors, omissions, conflicts and discrepancies found therein. Notice of such errors shall be given before the Contractor proceeds with any work. Figures shall be used in preference to scale dimensions and large-scale drawings in preference to small-scale drawings.

1.7 SHOP DRAWINGS AND RECORD DRAWINGS:

Refer to Division I Section 01 33 00 – SUBMITAL PROCEDURES and Section 01 78 39 – PROJECT RECORD DRAWINGS for requirements applicable to shop drawings and record drawings.

1.8 TEMPORARY FACILITIES, SERVICES AND CONTROLS:

Refer to Division I Section 01 50 00 – TEMPORARY FACILITIES SERVICES AND CONTROLS for the responsibilities of the Contractor.

1.9 DUST CONTROL:

The Contractor shall prepare, execute and manage a "Dust Control Plan" for the prevention of the emission of dust from construction related activities in compliance with 15 RCNY 13-01 et. seq.

1.10 PROVISIONS REFERENCED IN THE CONTRACT:

- A. **SCHEDULE A** - Various Articles of the Contract refer to requirements set forth in Schedule A of the General Conditions. Schedule A, which is included in the Addendum, sets forth (1) the referenced Articles of the Contract, and (2) the specific requirements applicable to the Contract.



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- B. EXTENSION OF TIME - Applications for Extensions of Time, as indicated in Article 13 of the Contract, shall be made in accordance with the Rules of the Procurement Policy Board.
- C. PARTIAL PAYMENTS FOR MATERIALS IN ADVANCE OF THEIR INCORPORATION IN THE WORK PURSUANT TO ARTICLE 42 OF THE CONTRACT – In order to better insure the availability of materials, fixtures and equipment when needed for the work, the Commissioner may authorize partial payment for certain materials, fixtures and equipment, prior to their incorporation in the work, but only in strict accordance with, and subject to, all the terms and conditions set forth in the Specifications, unless an alternate method of payment is elsewhere provided in the Specifications for specified materials, fixtures or equipment.
1. The Contractor shall submit to the Commissioner a written request, in quadruplicate, for payment for materials purchased or to be purchased for which the Contractor needs to be paid prior to their actual incorporation in the work. The request shall be accompanied by a schedule of the types and quantities of materials, and shall state whether such materials are to be stored on or off the site.
 2. Where the materials are to be stored off the site, they shall be stored at a place other than the Contractor's premises (except with the written consent of the Commissioner) and under the conditions prescribed or approved by the Commissioner. The Contractor shall set apart and separately store at the place or places of storage all materials and shall clearly mark same "PROPERTY OF THE CITY OF NEW YORK", and further, shall not at any time move any of said materials to another off-site place of storage without the prior written consent of the Commissioner. Materials may be removed from their place of storage off the site for incorporation in the work upon approval of the Resident Engineer.
 3. Where the materials are to be stored at the site, they shall be stored at such locations as shall be designated by the Resident Engineer and only in such quantities as, in the opinion of the Resident Engineer, will not interfere with the proper performance of the work by the Contractor or by other Contractors then engaged in performing work on the site. Such materials shall not be removed from their place of storage on the site except for incorporation in the work, without the approval of the Resident Engineer.
 4. INSURANCE
 - a. STORAGE OFF-SITE – Where the materials are stored off the site and until such time as they are incorporated in the work, the Contractor shall fully insure such materials against any and all risks of destruction, damage or loss including but not limited to fire, theft, and any other casualty or happening. The policy of insurance shall be payable to the City of New York. It shall be in such terms and amounts as shall be approved by the Commissioner and shall be placed with a company duly licensed to do business in the State of New York. The Contractor shall deliver the original and one (1) copy of such policy or policies marked "Fully Paid" to the Commissioner.
 - b. STORAGE ON THE SITE – Where the materials are stored at the site, the Contractor shall furnish satisfactory evidence to the Commissioner that they are properly insured against loss, by endorsements or otherwise, under the policy or policies of insurance obtained by the Contractor to cover losses to materials owned or installed by the Contractor. The policy of insurance shall cover fire and extended coverage against windstorm, hail, explosion and riot attending a strike, civil commotion, aircraft, vehicles and smoke.
 5. All costs, charges and expenses arising out of the storage of such materials, shall be paid by the Contractor and the City hereby reserves the right to retain out of any partial or final payment made under the Contract an amount sufficient to cover such costs, charges and expenses with the understanding that the City shall have and may exercise any and all other remedies at law for the recovery of such cost, charges and expenses. There shall be no

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increase in the Contract price for such costs, charges and expenses and the Contractor shall not make any claim or demand for compensation therefore.

6. The Contractor shall pay any and all costs of handling and delivery of materials, to the place of storage and from the place of storage to the site of the work; and the City shall have the right to retain from any partial or final payment an amount sufficient to cover the cost of such handling and delivery.
7. In the event that the whole or any part of these materials are lost, damaged or destroyed in advance of their satisfactory incorporation in the work, the Contractor, at the Contractor's own cost, shall replace such lost, damaged or destroyed materials of the same character and quality. The City will reimburse the Contractor for the cost of the replaced materials to the extent, and only to the extent, of the funds actually received by the City under the policies of insurance hereinbefore referred to. Until such time as the materials are replaced, the City will deduct from the value of the stored materials or from any other money due under the Contract, the amount paid to the Contractor for such lost, damaged or destroyed materials.
8. Should any of the materials paid for the City hereunder be subsequently rejected or incorporated in the work in a manner or by a method not in accordance with the Contract Documents, the Contractor shall remove and replace, at Contractor's own cost, such defective or improperly incorporated material with materials complying with the Contract Documents. Until such materials are replaced, the City will deduct from the value of the stored materials or from any other money due the Contractor, the amount paid by the City for such rejected or improperly incorporated materials.
9. Payments for the cost of materials made hereunder shall not be deemed to be an acceptance of such materials as being in accordance with the Contract Documents, and the Contractor always retains and must comply with the Contractor's duty to deliver to the site and properly incorporate in the work only materials which comply with the Contract Documents.
10. The Contractor shall retain any and all risks in connection with the damage, destruction or loss of the materials paid for hereunder to the time of delivery of the same to the site of the work and their proper incorporation in the work in accordance with the Contract Documents.
11. The Contractor shall comply with all laws and the regulations of any governmental body or agency pertaining to the priority purchase, allocation and use of the materials.
12. When requesting payment for such materials, the Contractor shall submit with the partial estimate duly authenticated documents of title, such as bills of sale, invoices or warehouse receipts, all in quadruplicate. The executed bills of sale shall transfer title to the materials from the Contractor to the City. (In the event that the invoices state that the material has been purchased by a subcontractor, bills of sale in quadruplicate will also be required transferring title to the materials from subcontractor to the Contractor).
13. Where the Contractor, with the approval of the Commissioner, has purchased unusually large quantities of materials in order to assure their availability for the work, the Commissioner, at the Commissioner's option, may waive the requirements of Paragraph 12 provided the Contractor furnishes evidence in the form of an affidavit from the Contractor in quadruplicate, and such other proof as the Commissioner may require, that the Contractor is the sole owner of such materials and has purchased them free and clear of all liens and other encumbrances. In such event, the Contractor shall pay for such materials and submit proof thereof, in the same manner as provided in Paragraph 12 hereof, within seven (7) days after receipt of payment therefore from the Comptroller. Failure on the part of the Contractor to submit satisfactory evidence that all such materials have been paid for in full, shall preclude the Contractor from payments under the Contract.



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14. The Contractor shall include in each succeeding partial estimate requisition a summary of materials stored which shall set forth the quantity and value of materials in storage, on or off the site, at the end of each preceding estimate period; the amount removed for incorporation in the work; the quantity and value of materials delivered during the current period and the total value of materials on hand for which payment thereof will be included in the current payment estimate.
15. Upon proof to the satisfaction of the Commissioner of the actual cost of such materials and upon submission of proper proof of title as required under Paragraph 12 or Paragraph 13 hereof, payment will be made therefore to the extent of 85%, provided however, that the cost so verified, established and approved shall not exceed the estimated cost of such materials included in the approved detailed breakdown estimate submitted in accordance with Article 41 of the Contract; if it does, the City will pay only 85% approved estimated cost.
16. Upon the incorporation in the work of any such materials, which have been paid for in advance of such incorporation in accordance with the foregoing provisions, payment will be made for such materials incorporated in the work pursuant to Article 42 of the Contract, less any sums paid pursuant to Paragraph 15 herein.

- D. **MOBILIZATION PAYMENT** – A line item for mobilization shall be allowed on the Contractor's Detailed Bid Breakdown submitted in accordance with Article 41 of the Contract. The Mobilization Payment is intended to include the cost of required bonds, insurance coverage and/or any other expenses required for the initiation of the Contract Work. All costs for mobilization shall be deemed included in the total Contract Price. The Detailed Bid Breakdown shall reflect, and the Mobilization Payment shall be made, in accordance with the following schedule:

Contract Amount	Percent	Mobilization
Less than - \$ 50,000	x 0	= 0
\$ 50,000 - \$ 100,000	x	= \$ 6,000
\$ 100,001 - \$ 500,000	x 6	= \$ 6,000 (min) - \$ 30,000 (max)
\$ 500,000 - \$ 2,500,000	x 5	= \$ 30,000 (min) - \$ 125,000 (max)
Over - \$ 2,500,000	x 4	= \$ 125,000 (min) - \$ 300,000 (max)

The Contractor may requisition for one-half (1/2) of the Mobilization Payment upon satisfactory completion of the following:

1. Installation of any required field office(s).
2. Submission of all required insurance certificates and bonds.
3. Approval by the Department of Design and Construction of the coordinated progress schedule for the project and the Contractor's Shop Drawing schedule.

The remaining balance of the Mobilization Payment may be requisitioned only after 10 percent (10%) of the Contract price, exclusive of the total amount of Mobilization Payments made or to be made hereunder, shall have been approved for payment.

- E. **ULTRA LOW SULFUR DIESEL FUEL AND BEST AVAILABLE TECHNOLOGY REPORTING:** The Contractor shall submit reports to the Commissioner regarding the use of Ultra Low Sulfur Diesel Fuel in Non-Road Vehicles, and the implementation of Best Available Technology (BAT), as set forth in Article 5.4 of the Contract. Such reports shall be submitted in accordance with the schedule, format, directions and procedures established by the Commissioner.



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1.11 PERFORMANCE OF WORK DURING NON-REGULAR WORK HOURS:

- A. **NON-REGULAR WORK HOURS:** The Commissioner may issue a change order in accordance with Article 25 of the Contract which (1) directs the Contractor to perform the Work, or specific components thereof, during other than regular work hours (i.e., evenings, weekends and holidays), and (2) provides compensation to the Contractor for costs in connection with the performance of Work during other than regular work hours. The Commissioner may issue a change order if a delay has occurred and such delay is not the fault of the Contractor, or if the work is of such an important nature that delay in completing such work would result in serious disadvantage to the public.
- B. **PROCEDURE:** The Contractor shall (1) obtain whatever permits may be required for performance of the work during other than regular business hours, and (2) pay all necessary fees in connection with such permits. In addition, if directed by the Commissioner, the Contractor shall make immediate application to the Commissioner of the Department of Labor, State of New York, for dispensation in accordance with Subdivision 2 of Section 220 of the Labor Law.

1.12 INTERRUPTION OF SERVICES AT EXISTING FACILITIES:

- A. **EVENING AND WEEKEND WORK** - Where performance of the Work requires the temporary shutdown(s) of services, such shutdown(s) shall be made at night or on weekends or at such times that will cause no interference with the established routines and operations of the facility in question.
 - 1 Where weekend or evening work is required due to unavoidable service shutdowns, such work shall be performed at no extra cost to the City. Components of the Work that must be performed during other than regular work hours are indicated in the Drawings and/or the Specifications.
- B. **INTERRUPTION OF EXISTING FACILITIES:**
 - 1 The Contractor shall not interrupt any of the services of the facility nor interfere with such services in any way without the permission of the Commissioner. Such interruption or interferences shall be made as brief as possible, and only at such time stated.
 - 2 Under no circumstances shall the Contractor, its subcontractors, or its workers, be permitted to use any part of the project as a shop, without the permission of the Commissioner.
 - 3 Unnecessary noise shall be avoided at all times and necessary noise shall be reduced to a minimum.
 - 4 Toilet facilities, water and electricity must be operational at all times (i.e. 24/7). No services of the facility can be interrupted in any way without the permission of the Commissioner. Careful coordination of all work with the Resident Engineer must be done to maintain the operational level of the project personnel at the facility.
 - 5 The Contractor shall schedule the work to avoid noise interference that will affect the normal functions of the facility. In particular, construction operations producing noises that are objectionable to the functions of the facility must be scheduled at times of day or night, day of the week, or weekend, which will not interfere with personnel at the facility. Any additional cost resulting from this scheduling shall be borne by the Contractor.



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- 6 The Contractor shall arrange to work continuously, including evening and weekend hours, if required, to assure that services will be shut down only during the time actually required to make the necessary connections to the existing facility.
- 7 The Contractor shall give ample written notice in advance to the Commissioner and personnel at the facility of any required shutdown.

PART II – PRODUCTS (Not Used)

PART III – EXECUTION (Not Used)

END OF SECTION 01 10 00



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SECTION 01 31 00 PROJECT MANAGEMENT AND COORDINATION

PART I – GENERAL

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].
- B. LEED: Refer to the Addendum to identify whether this project is designed to comply with a Certification Level according to the U.S. Green Building Council's Leadership in Energy & Environmental Design (LEED) Rating System, as specified in Section 01 81 13, "SUSTAINABLE DESIGN REQUIREMENTS FOR LEED BUILDINGS."
- C. COMMISSIONING: Refer to the Addendum to identify whether this project will be commissioned by an independent third party under separate contract with the City of New York. Commissioning shall be in accordance with ASHRAE and USGBC LEED-NC procedures, as described in Section 01 91 13, GENERAL COMMISSIONING REQUIREMENTS. The Contractor shall cooperate with the commissioning agent and provide whatever assistance is required.

1.2 SUMMARY:

- A. This Section includes administrative provisions for coordinating construction operations on the Project including without limitation the following.
 - 1. Coordination Drawings.
 - 2. Administrative and supervisory personnel.
 - 3. Project meetings.
 - 4. Requests for Interpretation (RFIs).
- B. This section includes the following:
 - 1. Definitions
 - 2. Coordination
 - 3. Submittals
 - 4. Administrative and Supervisory Personnel
 - 5. Project Meetings
 - 6. Requests for Interpretation (RFI's)
 - 7. Correspondence
 - 8. Contractor's Daily Reports
 - 9. Alternate and Substitute Equipment
- C. RELATED SECTIONS: include without limitation the following:
 - 1. Section 01 10 00 SUMMARY
 - 2. Section 01 32 00 CONSTRUCTION PROGRESS DOCUMENTATION
 - 3. Section 01 33 00 SUBMITTALS
 - 4. Section 01 35 26 SAFETY REQUIREMENTS
 - 5. Section 01 73 00 EXECUTION REQUIREMENTS
 - 6. Section 01 74 19 CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL



7. Section 01 77 00 PROJECT CLOSEOUT PROCEDURES

1.3 DEFINITIONS:

- A. Refer to Article 2 of the Contract for definition of terms, words and expressions used in the General Conditions not otherwise defined herein.
- B. Design Consultant: "Design Consultant" shall mean the entity responsible for providing design services for the Project, including without limitation, preparing the construction documents (drawings and specifications) and providing services in connection with such documents during construction. The entity serving as the "Design Consultant" may be a corporation, firm, partnership, joint venture, individual or combination thereof. Such entity may be either an employee(s) of the City or an entity engaged by the City to provide such services.

1.4 COORDINATION:

- A. Coordination: The Contractor shall coordinate its construction operations, including those of its subcontractors, with other entities to ensure the efficient and orderly installation of each part of the Work. The Contractor shall coordinate the various operations required by different Sections of the Specifications that depend on each other for proper installation, connection, and operation.
 - 1. Schedule construction operations in sequence in order to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
 - 2. Coordinate installation of different components to ensure maximum accessibility for required maintenance, service, and repair.
 - 3. Make adequate provisions to accommodate items scheduled for later installation.
 - 4. Where availability of space is limited, coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair of all components, including mechanical and electrical.
- B. The Contractor shall prepare memoranda for distribution to its subcontractors and other involved entities, outlining special procedures required for coordination. Such memoranda shall include required notices, reports, and meeting minutes as applicable.
- C. Administrative Procedures: The Contractor shall coordinate scheduling and timing of required administrative procedures with other construction activities and activities of its subcontractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include without limitation the following:
 - 1. Preparation of Contractor's Construction Schedule.
 - 2. Installation and removal of temporary facilities and controls.
 - 3. Delivery and processing of submittals.
 - 4. Progress meetings.
 - 5. Pre-installation conferences..
 - 6. Startup and adjustment of systems.
 - 7. Project closeout activities.
- D. Conservation: The Contractor shall coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials.



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- E. Salvaged Items, Material and/or Equipment: The Specifications may identify certain items, materials or equipment which must be salvaged by the Contractor and handled or disposed of as directed. The Contractor shall comply with all directions in the Specifications regarding the salvaging and handling of identified items, material or equipment.

1.5 SUBMITTALS:

- A. Submit shop drawings, product data, samples etc. in compliance with Section 01 33 00, SUBMITTAL PROCEDURES.
- B. Coordination Drawings: The Contractor shall prepare applicable Coordination Drawings in compliance with the requirements for Coordination Drawings in Section 01 33 00, SUBMITTAL PROCEDURES.
- C. Safety Plan in compliance with Section 01 35 26, SAFETY REQUIREMENTS PROCEDURES.
- D. Waste Management Plan in compliance with Section 01 74 19, CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL.
- E. Key Personnel Names: Within 15 days after the Notice to Proceed, the Contractor shall submit a list of key personnel assignments of the Contractor and its subcontractors, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including home and office telephone numbers. Provide names, addresses, and telephone numbers of individuals assigned as standbys in case of the absence of individuals assigned to Project.
1. Post copies of list in Project meeting room, in temporary field office, and by each temporary telephone. Keep list current at all times.
 2. In addition to Project superintendent, provide other administrative and supervisory personnel as required for proper performance of the Work. Include special personnel required for coordinating all operations by its subcontractors.

1.6 PROJECT MEETINGS:

- A. General: The Resident Engineer will hold regularly scheduled construction progress meetings at the site, at which time the Contractor and appropriate subcontractors shall have their representatives present to discuss all details relative to the execution of the work. The Resident Engineer shall preside over these meetings.
1. Agenda: Prior to each meeting, the Resident Engineer will consult with the Contractors and will prepare an agenda of items to be discussed. In general, after informal discussion of any item on the agenda, the Resident Engineer will summarize the discussion in a brief written statement, and the Contractor will then dictate a brief statement for the record.
 2. Coordination: In addition to construction progress meetings called by the Resident Engineer, the Contractor shall hold regularly scheduled meetings for the purpose of coordinating; expediting and scheduling the work in accordance with the master coordinated Job Progress Chart. The Contractor and its subcontractors, material suppliers or vendors whose presence is necessary, are required to attend. These meetings may, at the discretion of the Contractor, be held at the same place and immediately following the project meetings held by the Resident Engineer. Minutes of these meetings shall be recorded, typed and printed by the Contractor and distributed to all parties concerned.
- B. PRECONSTRUCTION KICK-OFF MEETING:
1. The Resident Engineer will schedule a preconstruction kick-off meeting either at DDC's main office or at the Project site to review responsibilities and personnel assignments and clarify the



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- role of each participant. Unless otherwise directed the Design Consultant will record and distribute meeting minutes.
2. Attendees: Authorized representative of the Client Agency; Design Consultant; the Contractor and its superintendents, subcontractor(s) and their superintendent(s); LEED sub-consultant and Commissioning Authority /Agent (CxA) as applicable and other concerned parties. All participants at the meeting shall be familiar with the Project and authorized to conclude matters relating to the Contract Work.
 3. Agenda: Includes without limitation the following as applicable:
 - a. Establishing construction schedule
 - b. Schedule for regular construction meetings
 - c. Phasing
 - d. Critical work sequencing and long-lead items
 - e. Designation of key personnel and their duties
 - f. Reviewing Application for Payment and Change Order Procedures
 - g. Procedures for Requests for Information (RFIs.)
 - h. Review Permits and Approval requirements
 - i. Review all recent Administrative Code reporting requirements relating to the project, (i.e. LL 77, LL86 etc.)
 - j. Procedures for testing and inspecting
 - k. Reviewing special conditions at the Project site
 - l. Distribution of the Contract Documents
 - m. Submittal procedures
 - n. Safety Procedures
 - o. LEED requirements
 - p. Commissioning Requirements
 - q. Preparation of Record Documents
 - r. Historic Treatment requirements
 - s. Use of the premises
 - t. Work restrictions
 - u. Client Agency occupancy requirements
 - v. Responsibility for temporary facilities, services and controls
 - w. Construction Waste Management and Disposal
 - x. Indoor Air Quality Management Plan
 - y. Dust Mitigation Plan
 - z. Office, work, and storage areas
 - aa. Equipment deliveries and priorities
 - bb. Security
 - cc. Progress cleaning
 - dd. Working hours



C. CONSTRUCTION PROGRESS MEETINGS:

1. The Resident Engineer will schedule and conduct construction progress meetings at bi-weekly intervals or as otherwise determined. All participants at the meeting shall be familiar with the Project and authorized to conclude matters relating to the Work. Unless otherwise directed the Design Consultant will record and distribute meeting minutes.
2. Attendees:
 - a. Design Consultant and applicable sub-consultants
 - b. Client Agency Representative
 - c. Representatives from the Contractor, sub-contractor(s), suppliers or other entities involved in the current progress, planning, coordination or future activities of the Work
 - d. Other appropriate DDC personnel, DDC consultants and concerned parties
3. Agenda: Includes without limitation the following:
 - a. Review the Construction Schedule and progress of the Work. Determine if the Work is on time, ahead of schedule or behind schedule. Determine actions to be taken to maintain or accelerate the schedule
 - b. Review and approve prior meeting minutes and follow up open issues
 - c. Coordinate work between each subcontractor
 - d. Sequence of Operations
 - e. Status of submittals, deliveries and off-site fabrication
 - f. Status of inspections and approvals by governing agencies
 - g. Temporary facilities and controls
 - h. Review Site Safety
 - i. Quality and work standards
 - j. Field observations
 - k. Status of correction of deficient items
 - l. RFI's
 - m. Pending changes
 - n. Status of outstanding Payments and Change Orders
 - o. LEED requirements including Construction Waste Management, Indoor Air Quality Plan, Dust Mitigation and Commissioning
 - p. Status of Administrative Code reporting requirements related to the project

1.7 REQUESTS FOR INFORMATION (RFI):

- A. Procedure: Immediately on discovery of the need for information or interpretation of the Contract Documents, and if not possible to request interpretation at Project meeting, the Contractor shall prepare and submit an RFI in the form specified by the Resident Engineer.
 1. RFI shall originate with the Contractor. RFIs submitted by entities other than Contractor will be returned with no response.
 2. Coordinate and submit RFI in a prompt manner to the Resident Engineer so as to avoid delays in Contractor's work or work of its subcontractors.
 3. RFI Log: The Contractor shall prepare, maintain, and submit a tabular log of RFIs organized by the RFI number monthly to the Resident Engineer.



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4. On receipt of responses and action to the RFI, the Contractor shall update the RFI log and immediately distribute the RFI response to affected parties. Review response(s) and notify the Resident Engineer immediately if the Contractor disagrees with response(s).

1.8 CORRESPONDENCE:

Copies of all correspondence to DDC shall be sent directly to the Resident Engineer at the job site.

1.9 CONTRACTOR'S DAILY REPORTS:

The Contractor shall prepare and submit Daily Construction Progress Reports as outlined in Section 01 32 00, CONSTRUCTION PROGRESS DOCUMENTATION.

PART II – PRODUCTS (Not Used)

PART III – EXECUTION (Not Used)

END OF SECTION 01 31 00



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SECTION 01 32 00 CONSTRUCTION PROGRESS DOCUMENTATION

PART I – GENERAL

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for establishing an effective base line schedule for the project and documenting the progress of construction during performance of the Work by developing, revising as necessary, various documents including but not limited to the following:
1. Baseline Construction Schedule.
 2. Composite Schedule for entire project
 3. Recovery Composite Schedule
 4. Revised and/or updated Composite Schedule
 5. Submittals Schedule.
 6. Daily construction reports.
 7. Material location reports.
 8. Field condition reports.
 9. Special reports.
- B. RELATED SECTIONS: include without limitation the following:
1. Section 01 10 00 SUMMARY
 2. Section 01 32 22 PHOTOGRAPHIC DOCUMENTATION
 3. Section 01 33 00 SUBMITTAL PROCEDURES
 4. Section 01 40 00 QUALITY REQUIREMENTS

1.3 DEFINITIONS:

- A. Refer to Article 2 of the Contract for definition of terms, words and expressions used in the General Conditions not otherwise defined herein.
- B. Design Consultant: "Design Consultant" shall mean the entity responsible for providing design services for the Project, including without limitation, preparing the construction documents (drawings and specifications) and providing services in connection with such documents during construction. The entity serving as the "Design Consultant" may be a corporation, firm, partnership, joint venture, individual or combination thereof. Such entity may be either an employee(s) of the City or an entity engaged by the City to provide such services.



- C. **Baseline Construction Schedule:**
A horizontal bar chart type schedule (Microsoft Project OR similar program) listing all the activities and their duration for entire contract duration OR construction period, including logical ties and interrelations between the activities necessary for the timely and successful completion of the project. Critical path activities shall be clearly marked. The Baseline construction schedule is a preliminary schedule that must be reviewed and approved by the Resident Engineer.
- D. **Composite Schedule:**
A composite horizontal bar chart type schedule (Microsoft Project OR similar program) listing all activities to be performed by the Contractor and its subcontractors, the duration of each activity including logical ties and interrelations between activities, and the sequence of each of necessary activities for the timely and successful completion of the project within the stipulated contract duration. Critical path activities shall be clearly marked. The Composite schedule must be signed and submitted by the Contractor within thirty (30) calendar days after the date established for commencement of the Contract, unless otherwise directed. The Composite Schedule must be reviewed and approved by the Resident Engineer.
- E. **Recovery Composite Schedule:** A Recovery Composite Schedule is not required unless the City issues an Acceleration Change Order.

A Composite Schedule outlining and incorporating extraordinary efforts required to recover lost time with the aim of achieving completion of the project within the stipulated contract duration, plus authorized time extensions. In such case special attention must be given to keep the delays as minimum as possible and must establish the nature of efforts such as extended hours of work, weekend work, accelerated fabrication, required action(s) or effort(s) by the Contractor, its subcontractors, consultants, clients, end users and/or other concerned parties.

Such schedule must be prepared and submitted within Five (5) calendar days of request by the Resident Engineer. The Recovery Composite Schedule must be reviewed and approved by the Resident Engineer.
- F. **Revised and/or Updated Composite Schedule:**

A Baseline construction schedule OR Composite Schedule OR Recovery Composite Schedule for the project that shows the actual duration of all the completed activities, including duration of and the reasons for delays, if any has occurred, AND revisions to all remaining activities of the Contractor and its subcontractors, including changes, if any, to logical ties, interrelations and the sequence of each of the outlined activities. Any such revisions should be shown on the row just below the approved schedule of the respective activity so that revisions can be compared.

The Revised and/or updated Composite Schedule must be reviewed and approved by the Resident Engineer.
- G. **Activity:** A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction project. Activities included in a construction schedule consume time and resources.
- H. **Event:** The starting or ending point of an activity.
- I. **Fragment:** A part of the activity that breaks down activities into smaller activities for greater detail.
- J. **Milestone:** A key or critical point in time for reference or measurement.
- K. **Network Diagram:** A graphic diagram of a network schedule, showing activities and activity relationships.



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PART II – PRODUCTS

2.1 BASELINE CONSTRUCTION SCHEDULE:

- A. The Contractor shall prepare a Baseline horizontal bar-chart-type construction schedule for the project. Submit the Baseline Construction Schedule to the Resident Engineer within (15) fifteen calendar days after the date established for commencement of the Contract, unless directed otherwise. The Baseline Schedule must be reviewed and approved by the Resident Engineer.
1. Provide a separate time bar for each significant construction activity. Coordinate each activity on the schedule with other construction activities for proper interrelationship & sequence.
 2. Duration: The duration of each activity on the schedule besides installation must clearly show required duration of filing for permits, inspections, testing, approvals, shop drawings and materials submittals and approvals, fabrication, delivery, phasing for each construction activity.
 3. Schedule shall be time-scaled in not more than weekly increments, with the dates of the first day (Monday) of each week indicated.
 4. Completion of all the project activities shall be indicated in advance of the date established for completion of the Contract, allowing time for required inspection and punch list work.
 5. Clearly show time bar for all the tasks, to be completed before start of physical work of scheduled activities, including but not limited to obtaining required permit, subcontractor approval, submission and approval of shop drawings, field verification, time for fabrication and delivery, testing of materials and/or samples, preparation and approval of mock-up sample, curing, pre-testing of soil, pre-testing of equipment - including start up, testing & adjusting, filing for inspection by regulatory agencies, training, final use, etc. required to maintain orderly progress of the activity. A special consideration must be given to those activities requiring early approvals because of long lead-time for manufacture or fabrication.
 6. Phasing: Arrange all activities in proper sequence to reflect requirements for phased completion, work by other entities, work by the City, City furnished items, coordination with existing work, limitations arising due to continued occupancies, non-interruptible services, partial completion for occupancy, site restrictions, provisions for future work, seasonal variations, environmental control, and similar conditions of the project.
 7. Arrange all activities and/or show interrelationship and logical sequence of all activities, determine and mark all critical path activities including any phasing reflecting actual project condition.
 8. Keep at least two blank horizontal bars between all activities for recording actual progress and submitting Revised Schedule as defined in Sub-Section 1.3 G
 9. If necessary a new revised schedule shall be prepared in the same manner as outlined above.

2.2 COMPOSITE SCHEDULE FOR THE PROJECT:

- A. The Contractor shall prepare a Composite Schedule based on the approved Baseline Schedule. Such schedule shall indicate graphically and chronologically the start and completion of each and every activity, including all the pre-activity and post activity tasks. Keep at least two blank horizontal bars between all activities for recording actual progress and/or revisions.
1. If necessary the Contractor shall meet with each subcontractor and with the Resident Engineer to review and make warranted adjustments and finalize the Composite Schedule. Once the schedule is finalized, the Contractor shall sign and date a reproducible form of the Composite Schedule. The Composite Schedule must be finalized and signed by the Contractor within (30) thirty calendar days after the date established for commencement of the Contract, unless directed otherwise. The Composite Schedule must be reviewed and approved by the Resident Engineer.



2.3 RECOVERY COMPOSITE SCHEDULE:

- A. A Recovery Composite Schedule is not required unless the City issues an Acceleration Change Order. A Recovery Composite Schedule outlining and incorporating extraordinary efforts required to recover lost time with the aim of achieving completion of the project within the stipulated contract duration, plus authorized time extensions, must be developed and submitted within (5) five calendar days of the request by the Resident Engineer. Such Recovery Composite Schedule shall include all information as defined in Article 1.3 F and shall be prepared in the same manner as outlined in Sub-Sections 2.1 and 2.2. The Recovery Composite Schedule must be reviewed and approved by the Resident Engineer.

2.4 REVISED AND/OR UPDATED COMPOSITE SCHEDULE:

- A. The Contractor shall revise and/or update the approved Composite Schedule as directed. The Revised schedule shall be prepared in the same manner as outlined above in Sub-Sections 2.1 and 2.2.
- B. The Contractor shall mark actual progress, delays, work stoppage etc. in the row just below the approved schedule for the respective activity so that revisions can be compared.
- C. Such schedule also shall indicate graphically and chronologically any revisions to the start and completion of the remaining activities including revisions to all the pre-activity and post activity tasks for all subcontractors.
- D. If necessary, the Contractor shall meet with each subcontractor and with the Resident Engineer to review and make warranted adjustments and finalize the Revised Composite Schedule. Once the schedule is finalized, the Contractor shall sign and date a reproducible form of the Schedule. Such schedule must be prepared and submitted by the Contractor within Five (5) calendar days of request by the Resident Engineer. The Revised Composite Schedule must be reviewed and approved by the Resident Engineer.

2.5 SUBMITTALS SCHEDULE:

- A. Preparation: The Contractor shall submit a schedule of submittals, arranged in chronological order by dates required by the construction schedule. Include time required for review, re-submittal, ordering, manufacturing, fabrication, and delivery when establishing dates.
- B. SCHEDULE F: Schedule F sets forth all submittal requirements for shop drawings and material samples. Schedule F is included in the Addendum. At the kick-off meeting, the Contractor must review this Schedule with the Resident Engineer and the Design Consultant. Within 10 days after the kick-off meeting, the Contractor must complete information on Schedule F concerning the submission date, the required delivery date and the fabrication time. For all required submittals of shop drawings and material samples, the Schedule F provided by the Contractor must indicate a submission date which is at least 20 business days prior to the date of the manufacture of the item or materials to be installed. In addition, if so directed by the Commissioner, the Schedule F provided by the Contractor must indicate a submission date for shop drawings and/or material samples of specified items or materials which is within 60 business days after the kick-off meeting. In the event of any conflict between the Specifications and Schedule F, Schedule F shall take precedence; provided, however, in the event of an omission from Schedule F (i.e., Schedule F omits either a reference to or information concerning a submittal requirement which is set forth in the Specifications), such omission from Schedule F shall have no effect and the Contractor's submittal obligation, as set forth in the Specifications, shall remain in full force and effect.
- C. Review: The Resident Engineer will review the Schedule F submitted by Contractor. Upon acceptance, the Resident Engineer will date and sign the schedule as approved and transmit it to the Consultant, Contractor and others within DDC as he/she deems appropriate.



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2.6 REPORTS:

- A. Daily Construction Reports: The Contractor shall submit to the Resident Engineer written Daily Construction Reports at the end of each work day, recording basic information such as the date, day, weather conditions, and contract days passed, remaining contract duration/days and the following information concerning the Project.

Information: The reports shall be prepared by the Contractor's Superintendent and shall bear the Contractor's Superintendents signature. Each report shall contain the following information:

1. List of name of Contractor, subcontractors, their work force in each category, and details of activities performed.
2. The type of materials and/or major equipment being installed by the Contractor and/or by each subcontractor.
3. The major construction equipment being used by the Contractor and/or subcontractors.
4. Material and Equipment deliveries.
5. High and low temperatures and general weather conditions.
6. Accidents.
7. Meetings and significant decisions.
8. Unusual events.
9. Stoppages, delays, shortages, and losses.
10. Meter readings and similar recordings
11. Emergency procedures.
12. Orders and/or requests of authorities having jurisdiction.
13. Approved Change Orders received and implemented.
14. Field Orders and Directives received and implemented.
15. Services connected and disconnected.
16. Equipment or system tests and startups.
17. Partial Completions and occupancies.
18. Substantial Completions authorized.

NOTE: If there is NO ACTIVITY at site, a daily report indicating so and the reason for no activity at the site must be submitted.

- B. Material Location Reports: The contractor shall submit a Material Location Report at weekly OR monthly intervals as determined and established by the Resident Engineer. Such report shall include a comprehensive list of materials delivered to and stored at Project site. List shall be cumulative, showing materials previously reported plus items recently delivered. Include with list a statement of progress on and delivery dates for materials or items of equipment fabricated or stored away from Project site.
- C. Field Condition Reports: Immediately on discovery of a difference between field conditions and the Contract Documents, prepare and submit a detailed report. Submit a Request For Information (RFI) form with a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.

2.7 SPECIAL REPORTS:

- A. Accident report, incident report, special condition report for the conditions out of control of any party involved with the project effecting project progress, explaining impact on the project schedule and cost if any.

PART III – EXECUTION (Not Used)
END OF SECTION 01 32 00



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SECTION 01 32 33
PHOTOGRAPHIC DOCUMENTATION

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SECTION 01 32 33

PART I – GENERAL

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract]

1.2 SUMMARY:

- A. This Section includes the following:
1. Photographic Media
 2. Construction Photographs
 3. Pre-construction Photographs
 4. Periodic Construction Progress Photographs
 5. Special Photographs
 6. DVD Recordings
 7. Final Completion Construction Photographs
- B. RELATED SECTIONS: include without limitation the following:
1. Section 01 10 00 SUMMARY
 2. Section 01 33 00 SUBMITTAL PROCEDURES
 3. Section 01 35 91 HISTORIC TREATMENT PROCEDURES
 4. Section 01 78 39 CONTRACT RECORD DOCUMENTS
 5. Section 01 81 19 INDOOR AIR QUALITY REQUIREMENTS FOR LEED BUILDINGS
- C. PHOTOGRAPHER - The Contractor shall employ and pay for the services of a professional photographer who shall take photographs showing the progress of the work for all Contracts.

1.3 DEFINITIONS:

- A. Refer to Article 2 of the Contract for definition of terms, words and expressions used in the General Conditions not otherwise defined herein.
- B. Design Consultant: "Design Consultant" shall mean the entity responsible for providing design services for the Project, including without limitation, preparing the construction documents (drawings and specifications) and providing services in connection with such documents during construction. The entity serving as the "Design Consultant" may be a corporation, firm, partnership, joint venture, individual or combination thereof. Such entity may be either an employee(s) of the City or an entity engaged by the City to provide such services.

1.4 SUBMITTALS:

- A. Qualification Data: For photographer.



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- B. Key Plan: With each Progress Photograph Submittal include a key plan of Project site and building with notation of vantage points marked for location and direction of each image. Indicate location, elevation or story of construction. Include same label information as corresponding set of photographs.
- C. Construction Progress Photograph Prints: Take Progress Photographs bi-weekly and submit four color prints of each photographic view for each trade to the Resident Engineer. Such photographs shall be included in each monthly progress report or as otherwise directed by the Resident Engineer.
- D. Construction Photograph Negatives: Submit a complete set of photographic negatives in individually protected negative sleeves with each submittal of prints. Identify negatives with label matching photographic prints.
- E. Digital Images: If Digital Media is used, submit a complete set of digital color image electronic files on CD-ROM with each submittal of prints. Identify electronic media with date photographs were taken. Submit images that have same aspect ratio as the sensor, un-cropped.

1.5 QUALITY ASSURANCE:

- A. Photographer Qualifications: An individual who has been regularly engaged as a professional photographer of construction projects for not less than three years.

1.6 COORDINATION:

- A. The Contractor and its subcontractor(s) shall cooperate with the photographer and provide auxiliary services requested, including access to Project site and use of temporary facilities, including temporary lighting required to produce clear, well-lit photographs without obscuring shadows.

1.7 COPYRIGHT:

- A. The Contractor shall include the provisions set forth below in the agreement between the Contractor and the Photographer who will provide the construction photographs described in this section. The Contractor shall submit to the Resident Engineer a copy of its agreement with the Photographer.
- B. Any photographs, images and/or other materials produced pursuant to this Agreement, and any and all drafts and/or other preliminary materials in any format related to such items produced pursuant to this Agreement, shall upon their creation become the exclusive property of the City.
- C. Any photographs, images and/or other materials provided pursuant to this Agreement ("Copyrightable Materials") shall be considered "work-made-for-hire" within the meaning and purview of Section 101 of the United States Copyright Act, 17 U.S.C. § 101, and the City shall be the copyright owner thereof and of all aspects, elements and components thereof in which copyright protection might exist. To the extent that the Copyrightable Materials do not qualify as "work-made-for-hire," the Photographer hereby irrevocably transfers, assigns and conveys exclusive copyright ownership in and to the Copyrightable Materials to the City, free and clear of any liens, claims, or other encumbrances. The Photographer shall retain no copyright or intellectual property interest in the Copyrightable Materials. The Copyrightable Materials shall be used by the Photographer for no purpose other than in the performance of this Agreement without the prior written permission of the City. The Department may grant the Photographer a license to use the Copyrightable Materials on such terms as determined by the Department and set forth in the license.
- D. The Photographer acknowledges that the City may, in its sole discretion, register copyright in the Copyrightable Materials with the United States Copyright Office or any other government agency authorized to grant copyright registrations. The Photographer shall fully cooperate in this effort, and agrees to provide any and all documentation necessary to accomplish this.



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- E. The Photographer represents and warrants that the Copyrightable Materials: (i) are wholly original material not published elsewhere (except for material that is in the public domain); (ii) do not violate any copyright Law; (iii) do not constitute defamation or invasion of the right of privacy or publicity; and (iv) are not an infringement, of any kind, of the rights of any third party. To the extent that the Copyrightable Materials incorporate any non-original material, the Photographer has obtained all necessary permissions and clearances, in writing, for the use of such non-original material under this Agreement, copies of which shall be provided to the City.

PART II – PRODUCTS

2.1 PHOTOGRAPHIC MEDIA:

- A. Photographic Film: Medium format, 2-1/4 by 2-1/4 inches (60 by 60 mm).
- B. Digital Images:
1. Construction Progress Images: Color images in JPEG format with minimum sensor size of 1.3 megapixels.
 2. Presentation Quality Images: Provide Color images in uncompressed TIFF format, produced by a digital camera with minimum sensor size of 4.0 megapixels, and at an image resolution of not less than 1024 by 768 with 8"x10" original capture at 300 dpi or greater.
- C. Prints:
1. Format: 8-by-10-inch (203-by-254-mm) smooth-surface matte color prints on single-weight commercial-grade stock paper, with 1inch wide margins and punched for standard 3-ring binder.
 2. Identification: On the front of each photograph affix a label in the margin with Project name and date photograph was taken. On the back of each print, provide an applied label or rubber-stamped impression with the following information:
 - a. Project Contract I.D. Number.
 - b. Project Contract Name.
 - c. Name of Contractor. (and Subcontractor Trade Represented)
 - d. Subject of Image Taken.
 - e. Date and time photograph was taken if not date stamped by camera.
 - f. Description of vantage point, indicating location, direction and other pertinent information.
 - g. Unique sequential identifier.
 - h. Name and address of photographer.

PART III – EXECUTION

3.1 CONSTRUCTION PHOTOGRAPHS:

- A. General: Take photographs using the maximum range of depth of field, and that are in focus, to clearly show the Work. Photographs with blurry or out-of-focus areas will not be accepted.
1. Maintain key plan with each set of construction photographs that identifies each photographic location and direction of view.
- B. Film Images:
1. Date Stamp: Unless otherwise indicated, date and time stamp each photograph as it is being taken so stamp is integral to photograph.



2. Field Office Prints: Retain one set of prints of progress photographs in the field office at Project site, available at all times for reference. Identify photographs same as for those submitted to Commissioner.
- C. Digital Images: Submit digital images exactly as originally recorded in the digital camera, without alteration, manipulation, editing, or modifications using image-editing software.
 1. Date and Time: Include date and time in filename for each image.
 2. Field Office Images: Maintain one set of images on CD-ROM in the field office at Project site, available at all times for reference. Identify images same as for those submitted to Commissioner.

3.2 PRE-CONSTRUCTION & PRE-DEMOLITION PHOTOGRAPHS:

- A. Before commencement of Contract work at the site, take color photographs of Project site and surrounding properties, including existing structures or items to remain during construction, from different vantage points, as directed by the Resident Engineer.
 1. Flag applicable excavation areas and construction limits before taking construction photographs.
 2. Take photographs of minimum eight (8) views to show existing conditions adjacent to property before starting the Work.
 3. Take applicable photographs of minimum eight (8) views of existing buildings either on or adjoining property to accurately record physical conditions at start of construction.
 4. Take additional photographs as required or directed by the Resident Engineer to record settlement or cracking of adjacent structures, pavements, and improvements.
- B. Demolition Operations: Take photographs as directed by the Resident Engineer of minimum of eight (8) views each before commencement of demolition operations, at mid-point of operations and at completion of operations.
- C. Pre-Demolition Photographs: Take archival quality color photographs, to include all exterior building facades, of all structures at the Project site designated to be fully demolished or removed in compliance with NYC Building Code requirements. Submit four (4) complete sets of pre-demolition photographs, in the format specified herein, to the Resident Engineer for submission to the Department of Buildings.

3.3 PERIODIC CONSTRUCTION PROGRESS PHOTOGRAPHS:

- A. Take photographs of minimum eight (8) views bi-weekly as directed by the Resident Engineer of construction progress for each contract trade. Select vantage points to show status of construction and progress since last photographs were taken.

3.4 SPECIAL PHOTOGRAPHS:

- A. The photographer shall take special photographs of subject matter or events as specified in other sections of the Project Specifications from vantage points specified or as otherwise directed by the Resident Engineer.
- B. Historical Elements: As required in Section 01 35 91, HISTORIC TREATMENT PROCEDURES, for Contract work at designated landmark structures or sites the photographer, as specified and required by individual sections of the Contract documents or at the direction of the Commissioner, shall take images of existing elements scheduled to be removed for replacement, repair or replication in quantities as directed, including post-construction photographs of completed work as directed by the Commissioner.



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1. Take Presentation Quality Photographs of designated landmark structures as directed by the Commissioner for submission to the New York City Landmarks Preservation Commission. Provide a minimum of four color photographic prints of each view as directed.

3.5 DVD RECORDING:

- A. When DVD Recording of Demonstration and Training sessions is required for Non-Commissioned projects the Contractor shall provide the services of a Videographer as indicated in Section 01 79 00, DEMONSTRATION AND OWNER'S PRE-ACCEPTANCE ORIENTATION.

3.6 FINAL COMPLETION CONSTRUCTION PHOTOGRAPHS:

- A. Take color photographs of minimum eight (8) unobstructed views of the completed project or project and site, as directed by the Commissioner and after all scaffolding, hoists, shanties, field offices or other temporary work has been removed and final cleaning is done after date of Substantial Completion for submission as Project Record Documents. Submit four (4) sets of each view of Presentation Quality photographic prints including negatives and/or digital images electronic file.

END OF SECTION 01 32 33



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SECTION 01 33 00 SUBMITTAL PROCEDURES

PART I – GENERAL:

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].

1.2 SUMMARY:

- A. This Section includes administrative and procedural requirements for submitting Shop Drawings, Coordination Drawings, Catalogue Cuts, Material Samples and other submittals required by the Contract Documents.
- B. Review of submittals does not relieve the Contractor of responsibility for any Contractor's errors or omissions in such submittals, nor from responsibility for complying with the requirements of the Contract.
- C. Responsibility of the Contractor: The approval of Shop Drawings will be general and shall not relieve the Contractor of responsibility for the accuracy of such Shop Drawings, nor for the proper fitting and construction of the work, nor of the furnishing of materials or work required by the Contract and not indicated on the Shop Drawings. Approval of Shop Drawings shall not be construed as approving departures from the Contract Drawings, Supplementary Drawings or Specifications.
- D. This Section includes the following:
1. Definitions
 2. Submission Procedures
 3. Coordination Drawings
 4. LEED Submittals
 5. Ultra Low Sulfur Diesel Fuel Reporting
 6. Construction Photographs and DVD Recordings
 7. As-Built Documents

1.3 RELATED SECTIONS: Include without limitation the following:

- | | | |
|----|------------------|--|
| A. | Section 01 10 00 | SUMMARY |
| B. | Section 01 31 00 | PROJECT MANAGEMENT AND COORDINATION |
| C. | Section 01 32 00 | CONSTRUCTION PROGRESS DOCUMENTATION |
| D. | Section 01 32 33 | PHOTOGRAPHIC DOCUMENTATION |
| E. | Section 01 77 00 | CLOSEOUT PROCEDURES |
| F. | Section 01 78 39 | CONTRACT RECORD DOCUMENTS |
| G. | Section 01 81 13 | SUSTAINABLE DESIGN REQUIREMENTS FOR LEED BUILDINGS |

1.4 DEFINITIONS:

- A. Refer to Article 2 of the Contract for definition of terms, words and expressions used in the General Conditions not otherwise defined herein.
- B. Design Consultant: "Design Consultant" shall mean the entity responsible for providing design services for the Project, including without limitation, preparing the construction documents (drawings and specifications) and providing services in connection with such documents during construction. The entity serving as the "Design Consultant" may be a corporation, firm, partnership, joint venture, individual or



- combination thereof. Such entity may be either an employee(s) of the City or an entity engaged by the City to provide such services.
- C. Submittals: Written and graphic information that requires responsive actions and includes without limitation all shop drawings, product data, letters of certification, tests and other information required for quality control and as required by the Contract Documents.
 - D. Informational Submittals: Written information that does not require responsive action. Submittals may be rejected for non-compliance with the Contract.
 - E. Shop Drawings: Include drawings, diagrams, illustrations, schedules, performance charts, brochures, and other data, except for coordination drawings, specifically prepared for the project by the Contractor or any subcontractor, manufacturer, supplier or distributor, which illustrates how specific portions of the work shall be fabricated and/or installed.
 - F. Coordination Drawings: As required in Section 01 31 00 PROJECT MANAGEMENT AND COORDINATION.
 - G. Product Data and Quality Assurance Submittals: Includes manufacturer's standard catalogs, pamphlets and other printed materials including without limitation the following:
 - 1. Catalogue and Product specifications
 - 2. Installation instructions
 - 3. Color charts
 - 4. Catalog cuts
 - 5. Rough-in diagrams and templates
 - 6. Wiring diagrams
 - 7. Performance curves
 - 8. Operational range diagrams
 - 9. Mill reports
 - 10. Design data and calculations
 - 11. Certification of compliance or conformance
 - 12. Manufacturer's instructions and field reports

1.5 COORDINATION DRAWINGS:

- A. The Contractor shall provide reproducible Coordination Drawing(s) of the reflective ceiling showing the integration of all applicable contract work, including general construction work as well as trade work (Plumbing, HVAC, and Electrical) to be performed by subcontractors. The Coordination Drawing(s) shall include, without limitation, the following information:
 - 1. General Construction work showing the reflective ceiling plan including starting points, ceiling and beam soffits elevations, ceiling heights, roof openings, etc.
 - 2. HVAC Contract work showing ductwork, heating and sprinkler piping, location of grilles, registers etc. and access doors in hung ceilings. Locations shall be fixed by elevations and dimensions from column centerlines and/or walls.
 - 3. Plumbing Contract work including piping, valves, cleanouts etc., indicating locations and elevations and shall indicate the necessary access doors.
 - 4. Electrical Contract work indicating fixtures, large conduit runs, clearances, pull boxes, junction boxes, sound system speakers, etc.
- B. The Contractor shall issue the completed Coordination Drawing(s) to the Resident Engineer for his/her review. The Resident Engineer may call as many meetings as necessary with the Contractor, including



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attendance by applicable subcontractors, and may call on the services of the Design Consulting where necessary, to resolve any conflicts that become apparent.

- C. Upon resolution of any conflicts, the Contractor shall provide a final Coordination Drawing(s) which will become the Master Coordination Drawing(s). The Master Coordination Drawing(s) shall be signed and dated by the Contractor to indicate acceptance of the arrangement of the work.
- D. A reproducible copy of the Master Coordination Drawing(s) shall be provided by the Contractor to each of the appropriate subcontractor(s), the Resident Engineer and the Design Consultant for information.
- E. Shop Drawings shall not be submitted prior to acceptance of the final coordinated drawings and shall be prepared in accordance with the Master Coordination Drawing(s). No work will be permitted without accepted Shop Drawings. It is therefore essential that this procedure be instituted as quickly as possible.

1.6 SUBMITTAL PROCEDURES:

- A. Refer to Section 01 35 03 GENERAL MECHANICAL REQUIREMENTS and Section 01 35 06 GENERAL ELECTRICAL REQUIREMENTS for additional submittal requirements involving electrical and mechanical work or equipment of any nature called for the project.
- B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
 - 1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activities, with the Submittal Schedule specified in Section 01 32 00 CONSTRUCTION PROGRESS DOCUMENTATION.
 - 2. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.
 - 3. The Commissioner reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
- C. Submittals Schedule: The Submittals Schedule is set forth in Schedule F, which is included in the Addendum.
- D. Identification: Place a permanent label or title block on each submittal for identification.
 - 1. Indicate name of firm or entity that prepared each submittal on label or title block.
 - 2. Provide a space approximately 6 by 8 inches on label or beside title block to record Contractor's review and approval markings and action taken by Design Consultant.
 - 3. Include the following minimum information on label for processing and recording action taken:
 - a. Project name, DDC Project Number and Contract Number
 - b. Date
 - c. Name and address of Design Consultant
 - d. Name and address of Contractor
 - e. Name and address of subcontractor
 - f. Name and address of supplier
 - g. Name of manufacturer
 - h. Submittal number or other unique identifier, including revision identifier
 - i. Number and title of appropriate Specification Section
 - j. Drawing number and detail references, as appropriate
 - k. Location(s) where product is to be installed, as appropriate
 - l. Other necessary identification
- E. Transmittal:
 - 1. Package each submittal individually and appropriately for transmittal and handling. Transmit each submittal using a transmittal form in triplicate. Transmittals received from sources other than the



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Contractor will be returned without review. Re-submission of the same drawings or product data shall bear the original number of the prior submission and the original titles.

2. Transmittal Form: Provide locations on form for the following information:
 - a. Project name, DDC Project number and Contract Number
 - b. Date
 - c. Destination (To:)
 - d. Source (From:)
 - e. Names of Contractor, subcontractor, manufacturer, and supplier
 - f. Category and type of submittal
 - g. Submittal purpose and description
 - h. Specification Section number and title
 - i. Drawing number and detail references, as appropriate
 - j. Transmittal number, numbered consecutively
 - k. Submittal and transmittal distribution record
 - l. Remarks
 - m. Signature of transmitter
- F. Shop Drawings:
1. Procedures for Preparing, Forwarding, Checking and Returning all Shop Drawings shall be, generally, as follows:
 - a. The Contractor shall make available to its subcontractors the necessary Contract Documents and shall instruct such subcontractor to determine dimensions and conditions in the field, particularly with reference to coordination between the trade subcontractors. The Contractor shall direct its subcontractors to prepare Shop Drawings for submission to the Design Consultant in accordance with the requirements of these General Conditions. The Contractor shall also direct its subcontractors to "Ring Up" corrections made on all re-submissions for approval, so as to be readily seen, and that the symbol "sub" be used to identify the source of the correction or information that has been added.

The Contractor shall:

 1. Review and be responsible to the Commissioner, for information shown on its subcontractor's Shop and Installation drawings and manufacturers' data, and also for conformity to Contract Documents.
 2. "Ring Up" corrections made on all submissions for approval, so as to be readily seen, and that the symbol "GC", "PL", "HVAC" or "EL" be used to indicate that the correction and/or information added was made by the Contractor and/or its subcontractor(s).
 3. Clearly designate which entity is to perform the work when the term, "work by others" or other similar phrases are indicated on the Contract Drawings before submission to the Design Consultant.
 4. Stamp submissions "Recommended for Acceptance", date and forward to the Design Consultant.
 2. The Contractor shall promptly prepare and submit project specific layout detail and Shop Drawings of such parts of the work as are indicated in the Specifications, Schedule F of the Addendum or as required. These Shop Drawings shall be made in accordance with the Contract Drawings, Specifications and Supplementary Drawings, if any. The Shop Drawings shall be accurate and distinct and give all the dimensions required for the fabrication, erection and installation of the work.
 3. Size of Drawings: The Shop Drawings, unless otherwise directed, shall be on sheets of the same size as the Contract Drawings, drawn accurately and of sufficient scale to be legible, with a one half (1/2) inch marginal space on each side and a two (2) inch marginal space for binding on the left side.



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4. Scope of Drawings: Shop Drawings shall be numbered consecutively and shall accurately and distinctly represent all aspects of the work, including without limitation the following:
 - a. All working and erection dimensions
 - b. Arrangements and sectional views
 - c. Necessary details, including performance characteristics, and complete information for making necessary connections with other work
 - d. Kinds of materials including thickness and finishes
 - e. Identification of products
 - f. Fabrication and installation drawings
 - g. Roughing-in and setting diagrams
 - h. Wiring diagrams showing field-installed wiring, including power, signal, and control wiring
 - i. Shop work manufacturing instructions
 - j. Templates and patterns
 - k. Schedules
 - l. Design calculations
 - m. Compliance with specified standards
 - n. Notation of coordination requirements
 - o. Notation of dimensions established by field measurement
 - p. Relationship to adjoining construction clearly indicated
 - q. Seal and signature of professional engineer if specified
 - r. Wiring Diagrams: Differentiate between manufacturer-installed and field-installed wiring
 - s. All other information necessary for the work and/or required by the Commissioner
5. Titles and Reference: Shop Drawings shall be dated and contain:
 - a. Name of the Project, DDC Project Number and Contract Number
 - b. The descriptive names of equipment, or materials covered by the Contract Drawings and the classified item number or numbers, if any, under which it is, or they are required
 - c. The locations or points and sequence at which materials, or equipment, are to be installed in the work
 - d. Cross references to the section number, detail number and paragraph number of the Contract Specifications
 - e. Cross references to the sheet number, detail number, etc., of the Contract Drawings
6. Field Measurements: In addition to the above requirements, the Shop Drawings shall be signed by the Contractor and, if applicable, the subcontractor responsible for preparation of the Shop Drawings. Each Shop Drawing shall be stamped with the following wording:

FIELD MEASUREMENTS: The Contractor certifies that it has verified and supplemented the Contract Drawings by taking all required field measurements, which said measurements correctly reflect all field conditions and that this Shop Drawing incorporates said measurements.
7. Contractor's Statement with Submittal: Any Submittal by the Contractor for acceptance, including without limitation, all dimensional drawings of equipment, blueprints, catalogues, models, samples and other data relative to the equipment, the materials, the work or any part thereof, must be accompanied by a statement that the Submittal has been examined by the Contractor and that everything shown in the Submittal is in accordance with the requirements of the Contract Drawings and Specifications. If there is any discrepancy between what is shown in the Submittal and the requirements of the Contract Drawings and Specifications, the Contractor shall, in its statement, list and clearly describe each such discrepancy.

Acceptance will be given based upon the Contractor's representation that what is shown in the Submittal is in accordance with the requirements of the Contract Drawings and Specifications. If



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the Contractor's statement indicates any discrepancy between what is shown in the Submittal and the requirements of the Contract Drawings and Specifications, such change is subject to review and prior written acceptance by the Design Consultant. In addition, such change may require a change order in accordance with Article 25 of the Contract. In the event any such change is approved, any additional expense or increased cost in connection with the change is the sole responsibility of the Contractor.

8. Submission of Shop Drawings:

- a. Initial Submission: The Contractor shall submit seven (7) copies of each Shop Drawing to the Design Consultant for his/her review and acceptance. The Design Consultant will transmit Shop Drawings to appropriate sub-consultants for review and acceptance, including Commissioning Authority/Agent as applicable. A satisfactory Shop Drawing will be stamped "No Exceptions Taken", be dated and distributed by the Design Consultant as follows:

- 1) Two (2) copies thereof will be returned to the Contractor by letter
- 2) Three (3) copies of the approved Shop Drawing and copy of the transmittal letter to the Contractor will be forwarded to DDC
- 3) One copy will be retained by the Design Consultant
- 4) One copy will be forwarded / retained by sub-consultant(s) as appropriate

Should the Shop Drawing(s) be "Rejected" or noted "Revise and Resubmit" by the Design Consultant, the Design Consultant will return the Shop Drawings to the Contractor with the necessary corrections and changes to be made as indicated thereon.

- b. Revisions: The Contractor must make such corrections and changes and again submit seven (7) copies of each shop drawing to the Design Consultant. The Contractor shall revise and resubmit the Shop Drawing as required by the Design Consultant until the Shop Drawings are stamped "No Exceptions Taken". However, Shop Drawings which have been stamped "Make Corrections Noted" shall be considered an "Acceptable" Shop Drawing and NEED NOT be resubmitted.
- c. Commencement of Work: No work or fabrication called for by the Shop Drawings shall be done until the acceptance of the said drawings by the Design Consultant is given. In addition to the foregoing Shop Drawing transmissions, a copy of any Shop Drawing prepared by any of the Contractor's subcontractors which Shop Drawing indicated work related to, adjacent to, impinging upon, or affecting work to be done by other subcontractors shall be transmitted to the subcontractors so affected. [These accepted Shop Drawings shall be distributed to the affected subcontractors when required with a copy of the transmittal to the Resident Engineer.]
- d. Variations: If the Shop Drawings show variations from the Contract requirements because of standard shop practice or other reasons, the Contractor shall make specific mention of such variations in its letter of submittal. Acceptance of the Shop Drawings shall constitute acceptance of the subject matter thereof only and not of any structural apparatus shown or indicated.

G. Product Data:

1. General: Except as otherwise prescribed herein, the submission, review and acceptance of Product Data and Catalogue cuts shall conform to the procedures specified in Sub-Section 1.6 F, Shop Drawings.
2. If information must be specially prepared for submittal because standard printed data are not suitable for use, submit as Shop Drawings, not as Product Data.
3. Mark each copy of each submittal to show which products and options are applicable.
4. Include the following information, as applicable:



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- a. Manufacturer's written recommendations.
 - b. Manufacturer's product specifications.
 - c. Manufacturer's installation instructions.
 - d. Standard color charts.
 - e. Manufacturer's catalog cuts.
 - f. Wiring diagrams showing factory-installed wiring.
 - g. Printed performance curves.
 - h. Operational range diagrams.
 - i. Mill reports.
 - j. Standard product operation and maintenance manuals.
 - k. Compliance with specified referenced standards.
 - l. Testing by recognized testing agency.
 - m. Application of testing agency labels and seals.
 - n. Notation of coordination requirements.
5. Submit Product Data before or concurrent with Samples.
 6. Submission of Product Data:
 - a. Initial Submission: The Contractor shall submit seven (7) sets of Product Data to the Design Consultant for his/her review and acceptance. The Design Consultant will transmit Product Data to appropriate sub-consultants for review and acceptance, including Commissioning Authority/Agent as applicable. A satisfactory catalogue cut will be stamped "No Exception Taken", be dated and distributed as follows:
 - 1) Two (2) copies thereof will be returned to the Contractor by letter
 - 2) Three (3) copies of the Product Data and copy of the transmittal letter to the Contractor will be forwarded to DDC
 - 3) One copy will be retained by the Design Consultant
 - 4) One copy will be forwarded / retained by sub-consultant(s) as appropriateShould the Product Data be "Rejected" or noted "Revise and Resubmit" by the Design Consultant, the Design Consultant will return one (1) set of such Product Data to the Contractor with the necessary corrections and changes to be made indicated and one (1) set to DDC.
 7. Revisions: The Contractor must make such corrections and changes and again submit seven (7) copies of each Product Data for the review of the Design Consultant. The Contractor shall revise and resubmit the Product Data as required by the Design Consultant until the submission is stamped "No Exceptions Taken" by the Design Consultant. However, Product Data which has been stamped "Make Corrections Noted" shall be considered an "Accepted" Product Data and NEED NOT be resubmitted.
- H. Samples of Materials:
1. For samples of materials involving electrical work of any nature, refer to Section 00 35 06 - General Electrical Requirements.
 2. Samples shall be in triplicate, of sufficient size to show the quality, type, range of color, finish and texture of the material.
 3. Each of the samples shall be labeled as follows:
 - a. Name of the Project, DDC Project Number and Contract Number
 - b. Name and quality of the material
 - c. Date



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- d. Name of Contractor, subcontractor, manufacturer and supplier
 - e. Related Specification or Contract Drawing reference to the samples submitted
4. A letter of transmittal, in triplicate, from the Contractor requesting acceptance must accompany all such samples.
 5. Transportation charges to the Design Consultant's office must be prepaid on all samples forwarded.
 6. Samples for testing purposes shall be as required in the Specifications.
 7. Samples on Display: When samples are specified to be equal to approved product, they shall be carefully examined by the Contractor and by those whom the Contractor expects to employ for the furnishing of such materials.
 8. Timely Submissions Log/Schedule: Samples shall be submitted in accordance with approved Shop Drawing log so as to permit proper consideration without delaying any operation under the project. Materials should not be ordered until acceptance is received, in writing, from the Design Consultant. All materials shall be furnished equal in every respect to the accepted samples.
 9. The Acceptance of any samples will be given as promptly as possible, and shall be only for the characteristic color, texture, strength, or other feature of the material named in such approval, and no other. When this approval is issued by the Design Consultant, it is done with the distinct understanding that the materials to be furnished will fully and completely comply with the Specifications, the determination of which may be made at some later date by a laboratory test or by other procedure. Use of materials will be permitted only so long as the quality remains equal to the approved samples and complies in every respect with the Specifications, and the colors and textures of the samples on file in the office of the Design Consultant, for the project.
 10. Acceptability of test Data: The Commissioner will be the final judge as to acceptability of laboratory test data and performance in service of materials submitted.
 11. Valuable Samples: Valuable samples, such as hardware, plumbing and electrical fixtures, etc., not destroyed by inspection or test, will be returned to the Contractor and may be incorporated into the work after all questions of acceptability have been settled, providing suitable permanent records are made as to the location of the samples, their properties, etc.
 12. Equivalent Quality: Any material, article and/or equipment which is designated in the Drawings and/or Specifications by a number in the catalogue of any manufacturer or by a manufacturer's grade or trade name is designated for the purpose of describing the material, article and/or equipment and fixing the standard of performance and/or function, as well as the quality and/or finish. Any material, article and/or equipment which is other than what is specified in the Drawings and/or Specifications will only be accepted if the Commissioner makes a written determination that such material, article and/or equipment is equivalent to that which is specified in the Drawings and/or Specifications.
 13. The submission of any material, article and/or equipment as the equal of any material, article and/or equipment set forth in the Drawings and/or Specifications as a standard shall be accompanied by any and all information essential for determining whether such proposed material, article and/or equipment is equivalent to that which is specified. Such information shall include, without limitation, illustrations, drawings, descriptions, catalogues, records of tests, samples, as well as information regarding the finish, durability and satisfactory use of such proposed material, article and/or equipment under similar operating conditions.



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REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 1.7

1.7 LEED SUBMITTALS:

- A. Comply with submittal requirements specified in Section 01 74 19, CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL; Section 01 81 13, SUSTAINABLE DESIGN REQUIREMENTS FOR LEED BUILDINGS; Section 01 81 13.13, VOLATILE ORGANIC COMPOUND (VOC) LIMITS FOR ADHESIVES, SEALANTS, PAINTS AND COATINGS FOR LEED BUILDINGS; Section 01 81 19, INDOOR AIR QUALITY REQUIREMENTS FOR LEED BUILDINGS and Section 01 91 13, GENERAL COMMISSIONING REQUIREMENTS.
- B. LEED Building submittal information shall be assembled into one package per each applicable specification section, separate from all other non-LEED submittals. Each submittal package shall have a separate transmittal and identification as described in Sub-Section 1.5 herein.
- C. Number of Copies: Submit FOUR (4) copies of LEED submittals, in accordance with procedure described in Article 1.5 herein, unless otherwise indicated.
- D. Material Safety Data Sheets (MSDSs) for LEED Certification: Submit information necessary to show compliance with LEED certification requirements, which will be the limit of the Design Consultant's review for LEED compliance.
 - 1. Designated LEED submittals that include non-LEED MSDS data will not be reviewed. The entire submittal will be returned for re-submission.
- E. Product Cut Sheets and/or Shop Drawings for LEED Certification: Provide product cut sheets and/or shop drawings with the Contractor's or sub-contractor's stamp, confirming that the submitted products are the products installed in the Project. For detailed requirements refer to Sub-Section 1.6 of Section 01 81 13 SUSTAINABLE DESIGN REQUIREMENTS FOR LEED PROJECTS.
 - 1. Provide the quantity, length, area, volume, weight, and/or cost of each product submitted as required to satisfy LEED documentation requirements. Refer to Sub-Section 1.6 of Section 01 81 13 SUSTAINABLE DESIGN REQUIREMENTS FOR LEED PROJECTS.

1.8 ULTRA LOW SULFUR DIESEL FUEL AND BEST AVAILABLE TECHNOLOGY REPORTING:

- A. In accordance with Section 01 10 00 Summary, Sub-Section 1.5 E, the Contractor shall submit reports to the Commissioner regarding the use of Ultra Low Sulfur Diesel Fuel and Best Available Technology (BAT) in Non road Vehicles. Submission of such reports shall be in accordance with the schedule, format, directions and procedures established by the Commissioner.

1.9 CONSTRUCTION PHOTOGRAPHS AND DVD RECORDINGS:

- A. Submit construction progress photographs and DVD recordings in accordance with requirements of Section 01 32 33, PHOTOGRAPHIC DOCUMENTATION

1.10 AS-BUILT DOCUMENTS:

- A. Submit all as-built documents in accordance with Section 01 78 39 CONTRACT RECORD DOCUMENTS.



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PART II – PRODUCTS (Not Used)

PART III – EXECUTION (Not Used)

END OF SECTION 01 33 00



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SECTION 01 35 03
GENERAL MECHANICAL REQUIREMENTS

REFER TO THE ADDENDUM FOR APPLICABILITY OF THIS SECTION 01 35 03

PART I – GENERAL

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].

1.2 SUMMARY:

- A. The General Mechanical Requirements contained herein shall be followed by the Contractor, as well as its subcontractor for HVAC work. This Section sets forth the General Requirements applicable to mechanical work for the Project. Such requirements are intended to be read in conjunction with the Specifications and Contract Drawings for the Project. In the event of any conflict between the requirements set forth in this Section and the requirements of the Specifications and/or the Contract Drawings, whichever requirement is the most stringent, as determined by the Commissioner, shall take precedence.

1.3 RELATED SECTIONS: Include without limitation the following:

- A. Section 01 10 00 SUMMARY
- B. Section 01 33 00 SUBMITTAL PROCEDURES
- C. Section 01 35 06 GENERAL ELECTRICAL REQUIREMENTS
- D. Section 01 42 00 REFERENCES
- E. Section 01 77 00 CLOSEOUT PROCEDURES
- F. Section 01 78 39 CONTRACT RECORD DOCUMENTS

1.4 DEFINITIONS:

- A. **CONCEALED PIPING AND DUCTS** -: shall mean piping and ducts hidden from sight in masonry or other construction, in floor fill, trenches, partitions, hung ceilings, furred spaces, pipe shafts and in service tunnels not used for passage. Where piping and ducts run in areas that have hung ceilings, such piping and ducts shall be installed in the hung ceilings. For work on existing piping any insulation on such existing piping is to be tested for asbestos and abated, if found to be positive by a certified asbestos contractor. Such testing and abatement shall occur prior to the performance of any work on these pipes.

1.5 SUBMITTALS:

- A. **INTENT OF MECHANICAL CONTRACT DRAWINGS** – Mechanical Contract Drawings are in part diagrammatic and show the general arrangement of the equipment, ducts and piping included in the Contract and the approximate size and location of the equipment.
- B. The Contractor shall follow these Contract Drawings in laying out the work and verify the spaces in which it will be installed. The Contractor shall submit, as directed, Mechanical Shop Drawings, roughing drawings, manufacturer's Shop Drawings, field drawings, cuts, bulletins, etc., of all materials, equipment and methods of installation shown or specified in accordance with Section 01 33 00 SUBMITTAL PROCEDURES.



1. Submit sheet metal shop standards. Submit manufacturer's product data including gauges, materials, types of joints, scaling materials and installations for metal ductwork materials and products.
2. Submit scaled layout drawing (3/8"=1') of metal ductwork and fittings including, but not limited to, duct sizes, locations, elevations, slopes of horizontal runs, wall and floor penetrations and connections. Show modifications of indicated requirements made to conform to local shop practice and how those modifications ensure that free area, materials and rigidity are not reduced. Layouts should include all the room plans, mechanical equipment rooms and penthouses. Method of attachment of duct hangers to building construction all with the support details. Coordinate shop drawings with related trades prior to submission.
3. Indicate duct fittings, particulars such as gauges, sizes, welds and configuration prior to start of work for low-pressure systems.
4. Submit maintenance data and parts lists for metal ductwork materials and products. Include this data, product data and shop drawings in maintenance manual.

1.6 ACCESSIBILITY:

All work shall be installed by the Contractor so as to be readily accessible for inspection, operation, maintenance and repair. Minor deviations from the arrangement indicated on the Contract Drawings may be made to accomplish this, but they shall not be made without approval by the Commissioner.

1.7 CHANGES IN PIPING, DUCTS, AND EQUIPMENT:

Wherever field conditions are such that for proper execution of the work, reasonable changes in location of piping, ducts and equipment are necessary and required, the Contractor shall make such changes as directed and approved, without extra cost to the City.

1.8 CLEANING OF PIPING, DUCTS, AND EQUIPMENT:

Piping, ducts and equipment shall be thoroughly cleaned by the Contractor of all dirt, cuttings and other foreign substances. Should any pipe, duct or other part of the several systems be obstructed by any foreign matter, the Contractor will be required to pay for disconnecting, cleaning and reconnecting wherever necessary for the purpose of locating and removing obstructions. The Contractor shall pay for repairs to other work damaged in the course of removing obstructions. For work on existing piping, ducts and equipment the Contractor shall pay special attention during this task so as not to disturb the insulation on such piping, ducts or equipment.

1.9 STANDARDIZATION OF SIMILAR EQUIPMENT:

Unless otherwise particularly specified, all equipment of the same kind, type or classification, and used for identical purposes, shall be the product of one (1) manufacturer.

1.10 SUPPORTING STRUCTURES DESIGNED BY THE CONTRACTOR:

Unless otherwise specified, supporting structures for equipment to be furnished by the Contractor shall be designed by an Engineer licensed in New York State retained by the Contractor. Supporting structures shall be built by the Contractor of sufficient strength to safely withstand all stresses to which they may be subjected, within permissible deflections, and shall meet the following standards:

- A. Structural Steel - ASTM Standard Specifications, AISC and New York City Construction Codes.



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- B. Concrete for supports for equipment shall conform to the Specifications for concrete herein, but in no case shall be less than the requirements of the New York City Construction Codes for average concrete.
- C. Steel reinforcement for concrete shall be of intermediate grade and shall meet the requirements of the Standard Specifications for Billet Steel-Concrete Reinforcement Bars, ASTM.
- D. Drawings and calculations shall be submitted for review and acceptance in accordance with Section 01 33 00 SUBMITTAL PROCEDURES.

1.11 ELIMINATION OF NOISE:

- A. All systems and/or equipment provided under the Contract shall operate without objectionable noise or vibration.
- B. Should operation of any one or more of the several systems produce noise or vibration which is, in the opinion of the Commissioner, objectionable, the Contractor shall at its own expense make changes in piping, equipment, etc. and do all work necessary to eliminate objectionable noise or vibration.
- C. Should noise or vibration found objectionable by the Commissioner be transmitted by any pipe or portions of the structure from systems and/or equipment installed under the Contract, the Contractor shall at its own expense install such insulators and make such changes in or additions to the installations as may be necessary to prevent transmission of this noise or vibration.

1.12 PRELIMINARY FIELD TEST:

As soon as conditions permit, the Contractor shall furnish all necessary labor and materials for, and shall make, preliminary field tests of the equipment to ascertain compliance with the requirements of the Contract. If the preliminary field tests disclose equipment that does not comply with the Contract, the Contractor shall, prior to the acceptance test, make all changes, adjustments and replacements required.

1.13 INSTRUCTIONS ON OPERATION:

At the time the equipment is placed in permanent operation by the City, the Contractor shall make all adjustments and tests required by the Commissioner to prove that such equipment is in proper and satisfactory operating condition. The Contractor shall instruct the City's operating personnel on the proper maintenance and operation of the equipment for the period of time called for in the Specifications.

1.14 CERTIFICATES:

On completion of the work, the Contractor shall obtain certificates of inspection, approval, acceptance and of compliance with all laws from all agencies and/or entities having jurisdiction over the work and shall deliver these certificates to the Commissioner in accordance with Section 01 77 00 CLOSEOUT PROCEDURES. The work shall not be deemed substantially complete until the certificates have been delivered. See General Comments regarding problems with specifying items required for substantial completion.

PART II – PRODUCTS (Not Used)

PART III – EXECUTION (Not Used)

END OF SECTION 01 35 03



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SECTION 01 35 06 GENERAL ELECTRICAL REQUIREMENTS

PART I – GENERAL

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].

1.2 SUMMARY:

- A. This Section sets forth the General Requirements applicable to electrical work for the Project. Such requirements are intended to be read in conjunction with the Specifications and Contract Drawings for the Project. In the event of any conflict between the requirements set forth in this Section and the requirements of the Project Specifications and/or the Contract Drawings, whichever requirement is the most stringent, as determined by the Commissioner, shall take precedence.
- B. This Section includes the following:
1. Procedure for Electrical Approval
 2. Submittals
 3. Electrical Installation Procedures
 4. Electrical Conduit System Including Boxes (Pull, Junction and Outlet)
 5. Electrical Wiring Devices
 6. Electrical Conductors and Terminations
 7. Circuit Protective Devices
 8. Distribution Centers
 9. Motors
 10. Motor Control Equipment
 11. Schedule of Electrical Equipment

1.3 RELATED SECTIONS: Include without limitation the following:

- | | | |
|----|------------------|---------------------------------|
| A. | Section 01 10 00 | SUMMARY |
| B. | Section 01 33 00 | SUBMITTAL PROCEDURES |
| C. | Section 01 35 03 | GENERAL MECHANICAL REQUIREMENTS |
| D. | Section 01 42 00 | REFERENCES |
| E. | Section 01 77 00 | CLOSEOUT PROCEDURES |
| F. | Section 01 78 39 | CONTRACT RECORD DOCUMENTS |

1.4 DEFINITIONS:

- A. **WIRING:** means both wire and raceway (rigid steel, heavy wall conduit unless specifically indicated otherwise).
- B. **POWER WIRING:** means wiring from a panel board or other specified source to a starter (if required) then to a disconnect (if required), then to the final point of usage such as a motor, unit or device.
- C. **CONTROL and/or INTERLOCK WIRING:** means that wiring that signals the device to operate or shut down in response to a signal from a remote control device such as a temperature, smoke, pressure, float,



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- etc. device (starters and disconnect switches are not included in this definition) regardless of the voltage required for the controlling device.
- D. **RIGID STEEL CONDUIT:** shall mean rigid steel, heavy wall conduit that is hot dipped galvanized inside and outside. The conduit shall meet the requirements of the latest edition, as amended, of the "Standard for Rigid Steel Conduit" of the Underwriters' Laboratories, Inc. Unless otherwise specified in the Specifications or indicated on the Contract Drawings, rigid steel conduit shall be used for all exposed work, for all underground conduits in contact with earth and for fire alarms systems, as required by the New York City Construction Codes.
- E. **ELECTRICAL METALLIC TUBING (EMT):** shall mean industry standard thin wall conduit of galvanized steel only. All elbows, bends, couplings and similar fittings which are installed as a part of the conduit system shall be compatible for use with electric metallic tubing. Couplings and terminating fittings shall be of the pressure type as approved by the Commissioner. Set screw fittings will not be acceptable. EMT shall meet the requirements of the latest edition, as amended, of the "Standard for Electrical Metallic Tubing of the Underwriters Laboratories Inc." EMT may only be used where specifically indicated. In no case will EMT be permitted in spaces other than hung ceilings and dry wall partitions.
- F. **FLEXIBLE METALLIC CONDUIT (FMC):** Shall mean a conduit made through the coiling of a self-interlocking ribbed strip of aluminum or steel, forming a hollow tube through which wires can be pulled. For final connections to motors and motorized equipment, not more than a 4' - 0" length of flexible conduit may be used. For watertight installations, this conduit shall be of a watertight type, attached with watertight glands or fittings for final connections from outlet box to recessed lighting fixtures and in locations only where specifically permitted by the Specifications or Contract Drawings.

1.5 PROCEDURE FOR ELECTRICAL APPROVAL:

This Sub-Section sets forth General Electrical information, as well as required approvals for all electrical work required for the Project, including ancillary electrical work which may be included in the work of other trade subcontractors.

- A. **ELECTRIC SERVICE:** The electric service supply is subject to commercial and operating variation of the utility company. Proper provision shall be made to have all apparatus operate normally under these conditions.
- B. **ACCEPTANCE:** Acceptance and approval of the work will be contingent upon the inspection and test of the installation by the City regulatory agency.
- C. **TESTS:** The Contractor shall notify the Commissioner when the Contractor has completed the work and is ready to have it inspected and tested. Upon completion of the work tests shall be made as required by the Commissioner of all electrical materials, electrical and associated mechanical equipment, and of appliances installed hereunder. The Contractor shall furnish all labor and material for such tests. Should the tests show that any of the material, appliances or workmanship is not first class or not in compliance with the Contract, the Contractor on written notice shall remove and promptly replace them with other materials in conformity with the Contract.
- D. **CERTIFICATE OF THE BUREAU OF ELECTRICAL CONTROL, OF THE DEPARTMENT OF BUILDINGS (B.E.C.):** The Contractor must file prior to requesting a substantial completion inspection a Certificate of Inspection issued by B.E.C. On completion of the work the Contractor shall obtain certificates of inspection, approval, acceptance and compliance from all agencies and/or entities having jurisdiction over the work and shall deliver these certificates to the Commissioner in accordance with Section 01 77 00 CLOSEOUT PROCEDURES.
- E. **RESPONSIBILITY FOR CARE AND PROTECTION OF EQUIPMENT:**
1. The Contractor furnishing any equipment shall be responsible for the equipment until it has been finally inspected, tested and accepted, in accordance with the requirements of the Contract.



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2. After delivery and before and after installation, the Contractor shall protect all equipment against theft, injury or damage from all causes. The Contractor shall carefully store all equipment received for work, which is not immediately installed. If any equipment has been subject to possible injury by water, it shall be thoroughly dried out and put through a special dielectric test as directed by the Commissioner, at the expense of the Contractor or replaced by the Contractor without additional cost to the City.
- F. **UNIFORMITY OF EQUIPMENT:** Any two (2) or more pieces of equipment, apparatus or materials of the same kind, type or classification which are intended to be used for identical types of service, shall be made by the same manufacturer.

1.6 SUBMITTALS:

A. **CONTRACTOR'S ELECTRICAL DRAWINGS AND SAMPLES FOR APPROVAL:**

1. The Contractor shall submit to the Commissioner for approval, in accordance with Section 01 33 00 SUBMITTAL PROCEDURES, complete dimensional drawings of all equipment, wiring diagrams, motor test data, details of control, installation layouts showing all details and locations and including all schedules, and descriptions and supplementary data to comprise complete working drawings and instructions for the performance of the work. A description of the operation of the equipment and controls shall be included. A letter, in triplicate, shall accompany each submittal.
2. The Contractor shall submit in accordance with Section 01 33 00 SUBMITTAL PROCEDURES, duplicate samples of such materials and appliances as may be requested by the Commissioner for approval. These samples shall be properly tagged for identification and submitted for examination and test. After the samples are approved, one (1) sample will be returned to the Contractor and the other sample will be filed in the office of the Commissioner's representative for inspection use. After the Contract is completed, the second set of samples will be returned to the Contractor.

- B. **TIMELINESS:** All material shall be submitted in accordance with the submittal schedule in sufficient time for the progress of construction. Failure to promptly submit acceptable samples and dimensional drawings of equipment will not be accepted as grounds for an extension of time. The Commissioner may decline to consider submittals unless all related items are submitted at the same time.
- C. **CONTRACTOR'S STATEMENT WITH SUBMITTALS:** Contractor shall submit statement in accordance with Section 01 33 00, SUBMITTAL PROCEDURES.
- D. **BULLETINS AND INSTRUCTIONS:** The Contractor shall furnish and deliver to the Commissioner in accordance with Section 01 78 39, CONTRACT RECORD DOCUMENTS and Section 01 77 00, CLOSEOUT PROCEDURES, after acceptance of the work, four (4) complete sets of instructions, technical bulletins and any other printed matter (diagrams, prints, or drawings) required to provide complete information for the proper operation, maintenance and repair of the equipment and the ordering of spare parts.

PART II – PRODUCTS (Not Used)



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PART III – EXECUTION

3.1 ELECTRICAL INSTALLATION PROCEDURES:

This Sub-Section sets forth the General Installation Procedure that shall apply to all electrical work and electrical equipment appearing in the Contract.

(Refer to Sub-Section 1.4 DEFINITIONS for terms used in this section)

- A. **INTENT OF CONTRACT DOCUMENTS:** The Drawings and Specifications are to be interpreted as a means of conveying the scope and intent of the work without giving every minor electrical detail. It is intended, nevertheless, that the Contractor shall provide whatever labor and materials are found necessary, within the scope of the Contract, for the successful operation of the installation. Specific details of individual installations are to be finally decided upon when the Contractor submits Working or Shop Drawings for approval to DDC. Whenever there are two (2) or more methods to complete project work within the Contract scope, the Commissioner reserves the right to choose that method which, in the Commissioner's opinion, will afford the most satisfactory performance, lasting qualities, and accessibility for repairs, even though this selection is the most costly.
- B. **SCHEMATIC PLANS – APPROXIMATE LOCATIONS:** Conduits and wiring are shown on the plans for diagrammatic purposes only. Therefore, conduit layouts may not necessarily give the actual physical route of the conduits. The Contractor who installs a conduit system will also be required, as part of the work, to furnish and install all hangers and pull-boxes, including any special pull-boxes found necessary to overcome interferences, and to facilitate the pulling of electrical cables. Similarly, the locations of equipment, appliances, outlets and other items shown on Contract Drawings are only approximate and are to be definitively established when equipment Shop Drawings are submitted and approved by DDC during construction.
- C. **SLEEVES:** required for conduits passing through walls or floors, shall be furnished and set by the Contractor installing the conduits. Sleeves in waterproofed floors shall be provided with flashing extending 12 inches in all directions from sleeve and secured to waterproofing. Flashing shall be turned down into space between pipe and sleeve and caulked watertight. Flashing shall be 20 oz. cold rolled copper. Sleeves shall be supplied with welded flanges similar to those supplied by the subcontractor for Plumbing Work and shall extend one (1) inch above finished floor.
- D. **COORDINATION:** The Contractor shall keep in close touch with the construction progress and obtain the necessary information for the accurate placement of its work in ample time before project construction operations obstruct its work. The Contractor is to consult all other Contract Drawings, as well as approved equipment Shop Drawings on file in the Resident Engineer's Field Office. This will aid in avoiding interferences, omissions and errors in the electrical installation.
- E. **RESTORATION:** If drilling or cutting is done on finished surfaces of equipment or the structure, any marring of the surface shall be repaired or replaced by the Contractor. The Contractor shall be held responsible for corrective restoration due to its cutting or drilling, and for any damage to the project or its contents caused by the Contractor or the Contractor's workers. If any piercing of waterproofing occurs because of the installation of the work, the Contractor shall restore the waterproofing, at its own expense, to the satisfaction of the Commissioner.
- F. **ELECTRICAL WORK AT SITE:** The Contractor furnishing equipment consisting of a number of related electrical devices or appliances, mounted in a single enclosure, or on a common base, shall furnish this unit complete with internal wiring, connections, terminal boxes with copper connectors and/or lugs and ample electrical leads, ready for connection and operation. The cost of any wiring, re-wiring or other work required to be done on this unit in the field, shall be borne by the Contractor, without additional cost to the City.
- G. **COOPERATION AMONG SUBCONTRACTORS:** Whenever an electrically operated unit or system involves the combined work of several subcontractors for its installation and successful operation, the



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Contractor shall require each subcontractor to exercise the utmost diligence in cooperating with others to produce a complete, harmonious installation.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.2

3.2 ELECTRICAL CONDUIT SYSTEM INCLUDING BOXES (PULL, JUNCTION AND OUTLET):

This Sub-Section sets forth the requirements applying to the installation of electrical conduits, boxes or fittings. Rigid steel conduit shall be used throughout, unless otherwise directed by the Commissioner. Where the word 'conduit', without a modifier such as, rigid steel, EMT, etc., is specified to be used, it shall be interpreted to mean, rigid steel, heavy wall, threaded conduit.

(Refer to Sub-Section 1.4 DEFINITIONS for terms used in this section)

A. INSTALLATIONS AND APPLICATIONS:

1. Unless otherwise specified or indicated on the Contract Drawings, conduit runs shall be installed concealed in finished spaces.
2. **CONDUIT SIZES:** The sizes of conduit shall be as indicated on the Contract Drawings. Wherever conduit sizes are not indicated, the conduit shall meet the requirements of the New York City Electrical Code to accommodate the conductors to be installed therein.
3. Conduits shall be reamed smooth after cutting. No running threads will be permitted. Universal type couplings shall be used where required. Conduit joints shall be screwed up to butt. Empty conduits after installation shall have all open ends temporarily plugged to prevent the entrance of water or other foreign matter.
4. Conduits being installed in concrete or masonry shall be securely held in place during pouring and construction operations. A group of conduits terminating together shall be held in place by a template.
5. **UNDERGROUND STEEL CONDUITS:** Unless otherwise specified, all underground steel conduits in contact with earth shall be encased by the Contractor who installs them, in a covering of not less than two (2) inches of an approved concrete mixture. Concrete mix shall be one (1) part cement to four and one-half (4 ½) parts of fine and coarse aggregate.
6. **EXCAVATION RESTORATION PERMITS:** When installing underground conduits, duct banks or manholes the Contractor shall perform the work of cutting pavement, excavation shoring, keeping trenches or holes pumped dry, backfilling, restoration of surfaces to original condition and removal of excess earth and rubbish from premises. During the work, the Contractor shall provide adequate crossovers, protective barriers, lamps, flags, etc., to safeguard traffic and the public. When the work is in a public highway or street, the Contractor shall secure and pay for all necessary permits and inspection fees and pay the cost of repaving.
7. **EXPOSED CONDUIT SUPPORTS:** Exposed conduit shall be supported by Galvanized hangers with necessary inserts, beam clamps of approved design or attached to walls or ceilings by expansion bolts. Exposed conduits shall be supported or fastened at intervals not more than five (5) feet.
8. Exposed conduit shall be installed parallel or at right angles to ceiling, walls and partitions. Where direction changes of exposed conduit cannot be made with neat bends, such as required around beams or columns, conduit type fitting shall be used.



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9. The conduit shall be installed with an approved expansion joint:
 - a. Wherever the conduit crosses a building expansion joint the Contractor will be held responsible for determining where the building expansion joints are located.
 - b. Every 200 feet, when in straight runs of 200 feet or longer.
10. Conduit may only enter and leave a floating slab in the vertical direction, and then only in an approved manner. Horizontal entries into floating slabs are not permitted.
11. Conduit installed in pipe shafts shall be properly supported to carry the total weight of the raceway system complete with cable. In addition at least one (1) horizontal brace per 10 ft. section shall be provided to assure stability of the raceway system.
12. BUSHINGS AND LOCKNUTS: Approved bushings and locknuts shall be used wherever conduits enter outlet boxes, switch boxes, pull boxes, panel board cabinets, etc.
13. CONDUIT BENDS: shall be made without kinking conduit or appreciably reducing the internal diameter. All bends in conduit of two (2) inch in diameter or larger shall be made with an hydraulic or power pipe bender. The radius of the inner edge of any bend shall not be less than six (6) times the internal diameter of the conduit where rubber covered conductors are to be installed, and not less than 10 times the internal diameter of the conduit where lead covered conductors are to be used. Long gradual sweeps will be required, rather than sharp bends, when changes of direction are necessary.
14. EMPTY CONDUITS
 - a. TESTS: All conduits and ducts required to be installed and left empty shall be tested for clear bore and correct installation by the Contractor using a ball mandrel and a brush and snake before the installation will be accepted. The ball shall be turned to approximately 85% of the internal diameter of the raceway to be tested. Two (2) short wire brushes shall be included in the mandrel assembly. Snaking of conduits, ducts, etc., shall be performed by the Contractor in the presence of the Resident Engineer. Any conduits or ducts which reject the mandrel shall be cleared at once with the Contractor bearing all costs, such as chopping concrete, to replace the defective conduit and restore the surface to its original condition.
 - b. TAGS: Numbers or letters shall be assigned to the various conduit runs, and as they test clear they shall be identified by a fiber tag not less than 1-¼ inch width, attached by means of a nylon cord. All conduit terminations in panel, splice or pull boxes as well as those out of the floor or ceiling shall be tagged.
 - c. TEST RECORDS: As the conduit runs clear, a record shall be kept under the heading of "Empty Conduit Tested, Left Clear, Tagged and Capped" showing conduit designation, diameter, location, date tested and by whom. When complete, this record shall be signed by the Resident Engineer and submitted in triplicate for approval. This record shall be entered on the Contract Record Drawings under Section 01 78 39, CONTRACT RECORD DOCUMENTS.
 - d. CAPPING: All empty conduit and duct openings, after test, shall be capped or plugged by the Contractor as directed.
 - e. DRAG LINES: A drag line shall be left in all empty conduit.

B. BOXES:

1. The Contractor shall furnish and erect all pull boxes indicated on the plans or where required. Sides, top and bottom of pull boxes shall be Galvanized coated and shall be built of No. 12 USSG steel reinforced at corners by substantial angle irons and riveted or welded to plates. Bottom or side



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of pull boxes shall be removable and held in place by corrosion resistant machine screws. Pull boxes in damp locations shall have threaded hubs and gaskets and be NEMA 4X. All pull boxes shall be suspended from ceiling or walls in the most substantial manner.

2. In centering outlets, the Contractor is cautioned to allow for overhead pipes, ducts and other obstructions, and for variations in arrangement and thickness of fireproofing, soundproofing and plastering. Precaution should be exercised regarding the location of window and door trims, paneling, etc. Mistakes resulting from failure to exercise precaution must be corrected by the Contractor at no additional cost to the City. Outlets in hung ceilings shall be supported from the black iron or structure.
3. The exact location of all outlets in finished rooms shall be as directed. When the interior finish has been applied, the Contractor shall make any necessary adjustment of its work to properly center the outlets. All outlet boxes for local switches near doors shall be located at the strike side of doors as finally hung, whether so indicated on the drawings or not.
4. Exposed wall outlet boxes shall be erected neatly and tight against the walls and securely anchored to same.
5. All wall outlets of each type shall be set accurately at the same level on each floor, except where otherwise specified or directed. Where special conditions occur, outlets shall be located as directed.
6. **MOUNTING HEIGHTS:** The following heights are standard heights and are subject to correction due to coordination with Contract Drawings. All such changes must be approved by the Resident Engineer. Heights given are from finished floor to center line of outlet or device on wall or partition, unless otherwise indicated.
 - a. General Convenience Outlets
(mount vertical) 1'-6"
 - b. Clock Outlets 8'-6" or 1'-6" below ceiling
 - c. Wall Lighting Switches 4'-0"
 - d. Motor Controllers 5'-0"
 - e. Motor Push-button 4'-2"
 - f. Telephone Outlets As Directed
 - g. Fire Alarm Bells 8'-6" or 1'-6" below ceiling
 - h. Fire Alarm Stations 4'-0"
 - i. Intercom Outlet 1'-6"
 - j. Cooking and Refrigerator Unit As Directed
7. Outlet boxes shall be of approved design and construction; of form and dimensions suited and adapted to its specific location; the kind of fixture to be used and the number and arrangements of conduits, etc., connecting therewith. All ferrous outlet boxes shall meet the requirements for zinc coating as specified under Electrical Conduit Systems.
8. There shall be knockouts opened only for the insertion of conduit. Any outlet boxes with more openings than are necessary for conduit insertion shall be sealed by the Contractor without additional charge.
9. All outlet boxes and junction boxes for exposed work shall be galvanized cast iron or cast aluminum with threaded openings. Outlet boxes for exposed inside work in damp locations shall be galvanized cast iron or cast aluminum with threaded hubs and neoprene gaskets.
10. Junction boxes shall not be less than 4 11/16" square and shall be equipped with zinc coated plates. Where plates are exposed they shall be finished to match the room decor.



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11. **FIXTURE SUPPORTS:** Outlet boxes supporting lighting fixtures shall be equipped with fixture studs held by approved galvanized stove bolts or integral with the box. Cast iron or malleable boxes shall have four (4) tapped holes for mounting required cover or fixtures.
12. Outlet boxes exposed to the weather or indicated W.P. shall be cast iron or cast aluminum and the covers made watertight with neoprene gaskets. The boxes shall have external lugs for mounting. Drilling of the body of the fitting for mounting will not be permitted. The cover screws shall be appropriate in size, non-corrodible and not less than four (4) in number for each box opening.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.3

3.3 ELECTRICAL WIRING DEVICES:

- A. **WALL SWITCHES** shall be of the best specification grade, quiet type, and shall have a rating of 20 Amperes at 277 volts, as manufactured by Bryant, Hubbell or approved equal. The mechanism shall be equipped with arc snuffers. They shall be of the tumbler type, single pole. Switches of the 3-way type shall have a similar rating.
- B. **RECEPTACLES:**
 1. **CONVENIENCE OUTLETS:** shall be of the best specification grade, duplex, two-pole, 3-wire, 20 Amperes at 125 volts. It shall have a grounding pole that shall be grounded to the conduit system. Receptacles shall be capable of both back and side wiring and shall have only one (1) grounding screw. Receptacles shall be Hubbell Cat. #5262 or approved equal.
 2. **HEAVY DUTY RECEPTACLE OUTLETS:** shall have the Ampere rating and the number of poles specified on the Contract Drawings and shall be Hubbell, Russell-Stoll, Bryant, AH & H or approved equal. Each outlet shall have a grounding pole, which shall be grounded to the conduit system.
 3. **FLOOR RECEPTACLES:** shall be Russell & Stoll #3040 or approved equal, to fit into floor box previously specified.
 4. **NAMEPLATES:** are required for all receptacles other than 120V.
- C. **CLOCK HANGERS:** Clock outlets for surface type clocks shall be equipped with a supporting hook and recessed faceplate to conceal the electrical cord.
- D. **WATERTIGHT DEVICES:** For installations exposed to weather or in damp locations, the devices shall be in a gasketed, cast iron enclosure.
- E. **PLATES:**
 1. Every convenience outlet and switch outlet shall be covered by means of a stainless steel No. 302 - 0.4" antimagnetic plate with an approved finish, unless provided otherwise in the detailed Specifications.
 2. Where two (2) or three (3) switches are grouped together, a single faceplate shall be used. Where more than three (3) switches are located at one (1) point, the faceplates may be made up in multiple units.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.4

3.4 ELECTRICAL CONDUCTORS AND TERMINATIONS:

- A. **CONDUCTORS FOR LIGHT AND POWER** - All wire and cable shall be of annealed copper of 98% conductivity. Aluminum wire or cable will not be permitted. The insulation shall be flame retardant, moisture and heat resistant, thermoplastic, type THW or THWN rated for 600 volts at 75 degrees C. for



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both wet and dry locations. Wires No. 8 or larger shall be stranded. Wires and cables shall also be subject to the requirements of the NYCEC. Cables for incoming service or wire in conduits contiguous with the earth or in concrete or other damp or wet locations shall be synthetic rubber insulated with neoprene jacket, heat and moisture resistant and shall be equal to UL Type USE and rated for 600 volts at 75 degrees C. for both wet and dry locations.

- B. **FIXTURE WIRE:** Lighting fixtures shall be wired with No. 14 gauge wire designated as AWM and rated at 105 degrees C.
- C. **OTHER TYPES:** Cables and wires for interior communication systems are described in applicable detailed Specifications.
- D. **MINIMUM SIZE:** Conductors smaller than No. 12 AWG shall not be used for light or power.
- E. **COLOR CODE:** Wires shall have a phase color code, and multiple conductor cables shall be color coded.
- F. **CABLE DATA:** The Contractor shall submit for approval the following information for each size and type of cable to be furnished.
 - 1. **Manufacture of Cable - Location of Plant.**
 - 2. **Minimum insulation resistance at standard test temperature.**
 - 3. **Days required for delivery to site of work after order to proceed with manufacture.**
- G. **ORIGINAL REELS:** Cable and wire shall be delivered to the site of the work on original sealed factory reels.
- H. **WIRE INSTALLATION:**
 - 1. **INSTALL WIRES AFTER PLASTERING** - Feeder and branch circuits wiring shall not be installed in conduit before the rough plastering work is completed. No conductors shall be pulled into floor conduits before floor is poured.
 - 2. **CONDUIT SECURED IN PLACE** - No conductor shall be pulled into any conduit run before all joints are made up tightly and the entire run rigidly secured in place.
 - 3. **WIRE ENDS** - All wires shall be left with sufficiently long ends for proper connection and stowing.
 - 4. **PULLING COMPOUNDS** - When required to ease the pulling-in of wires into conduit, only approved compounds as recommended by cable manufacturers shall be used.
 - 5. **PRESSURE CONNECTORS** - for wires shall be of the cast copper or forged copper pressure plate type. Connectors shall be O.Z., Burndy, National Electric Products or approved equal.
 - 6. **Splices and feeder taps in the gutters of panel boxes** shall be made by means of pressure plate type connectors encased in composition covers as manufactured by O.Z., Burndy, National Electric Products or approved equal.
 - 7. **Splices in branch wiring for sound systems and fire systems**, shall be first made mechanically secure, then soldered and taped.
 - 8. **In lieu of soldered splices (except for sound and Fire Systems, which must have soldered splices)** the following alternates are acceptable for operating temperatures up to 105 degrees C., for fluorescent fixtures and for the splicing of branch circuit wiring up to No. 8 AWG wire:
 - a. **Mechanical splices made with mechanical connectors** as manufactured by the Minnesota Manufacturing Company "Scotchlock" or approved equal. Mechanical connectors requiring a special tool (pressure connectors, insulators and locking rings) by Buchanan or approved equal. The tool used for connector application shall be as approved by the connector manufacturer.



- b. For wire and cable No. 6 AWG and larger for branch circuit wiring the seamless tubular connector will only be accepted. Application of this connector shall be with a tool recommended by the connector manufacturer.
- 9. TAGS: All feeders and risers shall be tagged at both ends, and in all pull and junction boxes and gutter spaces through which they pass. Such tags shall be of fiber and have the feeder designation and size stamped thereon.
- 10. BRANCH CIRCUIT WIRING:
 - a. The Contractor installing branch circuit wiring shall test the work for correct connections and leave all loop splices in the fixture outlet boxes properly spliced and taped. The Contractor shall provide wire ends long enough for convenient connection to device.
 - b. NEUTRALS: No common neutrals shall be used except for lighting branch circuits. Each neutral wire shall be terminated separately on a neutral busbar in the panelboard. No common neutrals will be permitted for convenience receptacle branch circuits.

I. TERMINATIONS

- 1. LUGS: All lugs for all devices and all cable terminations shall be copper. AL/CU rated lugs will not be permitted. The only exception to this requirement is when the particular device is not manufactured with copper lugs by any manufacturer. Lugs for No. 6 AWG cable and larger shall be cast copper or forged copper pressure plate type. Lugs for 1/0 and larger shall be fastened with two (2) bolts.
- 2. All lugs shall be of the proper size to accept the cable connected to them. Any subcontractor furnishing a device containing lugs is to coordinate with the Contractor to insure that the device terminations are adequate for the wire or cable (whose size may be larger than expected due to voltage drop considerations) connected to the device.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.5

3.5 CIRCUIT PROTECTIVE DEVICES:

This Section sets forth the circuit protective devices such as circuit breakers and safety switches, used in connection with Motor Control Equipment, Distribution Centers, Panel boards and Service Entrance.

A. CIRCUIT BREAKERS:

- 1. CIRCUIT BREAKERS: shall be operable in any position and shall be of the quick-make, quick-break type on manual operation. The handle shall be trip free, preventing contacts from being held in closed position against abnormal overloads or short circuits. Positive visual indication of automatic tripped position of breaker shall be provided, in addition to the "On" and "Off" indication. All circuit breakers shall be of the bolted type.
- 2. TRIP RATING: Circuit breakers shall be provided with the required number of trip elements, calibrated at 40 degrees C., ambient temperature, in accordance with wire sizes or motor currents as shown on Contract Drawings or indicated in the Specifications.
- 3. POLE BARRIER: Multipole pole breakers shall be designed to break all poles simultaneously. They shall be provided with barriers between poles and arc suppressing devices.
- 4. ELEMENTS: Multipole circuit breakers shall have frames of not less than a 100 Ampere rating. Multipole circuit breakers for 480 volts AC operation shall have an NEMA interrupting rating of 18,000 Amperes, unless a higher rating is specified in the Specific Requirements or indicated on the Contract Drawings.



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5. For circuit breakers with frame size up to and including 225 Amperes, the breakers may be provided with non-interchangeable trip elements. For frame ratings above 225 Amperes, the breakers shall be provided with interchangeable trip elements, which can be replaced readily.
6. Single pole circuit breakers for branch circuits shall have a frame size of no less than 100 Amperes, and shall be rated at 125 volt A.C. with a NEMA interrupting rating of 10,000 Amperes, unless a higher rating is specified in the Specifications or indicated on the Contract Drawings.
7. INVERSE TIME ACTION: The circuit breakers shall be dual element type, one (1) element with time limit characteristics, so that tripping will be prevented on momentary overloads, but will occur before dangerous values are reached and the other with instantaneous trip action. Inverse time delay action shall be effective between a minimum tripping point of 125% of rating of breaker and an instantaneous tripping point between 600% and 700% of rated current.
8. CONSTANCY OF CALIBRATION: The tripping elements shall insure constant calibration and be capable of withstanding excessive short circuit conditions without injury.
9. CONTACTS: shall be non-welding under operating conditions and of the silver to silver type.
10. TEMPERATURE RISE: Current carrying parts, except thermal elements, shall not rise in temperature in excess of 30 degrees C. while carrying rated current at rated frequency.
11. NUMBERING: Each circuit breaker shall be distinctly numbered when installed in a group with other breakers. The calibration of trip element shall be indicated on each breaker.

B. SAFETY SWITCHES:

NEMA TYPE HD: When safety switches are permitted to be used for service entrance, motor disconnecting means or to control other types of electrical equipment, they shall be of the type HD of a rating not less than 30 Amperes. Enclosures shall be provided with means for locking. For ratings above 60 Amperes terminals shall have double studs.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.6

3.6 DISTRIBUTION CENTERS:

This Section sets forth the construction and installation procedure for Switchboards, Panel boards and Cabinets.

- A. PANELBOARDS-GENERAL TYPE: The panel boards shall be of the automatic circuit breaker type with individual breakers for each circuit, removable without disturbing the other units. Circuit breakers shall be in accordance with the requirements outlined under "Circuit Protective Devices."
- B. NUMBER AND RATING OF CIRCUIT BREAKERS: The Contract Drawings show a layout of each panel, giving the number, frame, size and trip setting of circuit breakers and number of branch circuits and spare breakers. Each branch circuit shall be distinctly numbered.
- C. BUS-BAR CONSTRUCTION AND SUPPORT: Panel Boards shall be of the dead front type and shall have bus bars and branch circuits designed to suit the system and voltage. Current carrying parts, exclusive of circuit breakers shall be copper and based on a maximum density of 1,000 Amperes per square inch. Bus bars for the main switchboard shall be designed for the frame rating of the Service Breaker. Bus bars shall run up the center of the panel, unless otherwise indicated, and shall have connected thereto the various branch circuits. Unless otherwise specified, bus bars for each panel board shall be equipped with main lugs only and capacity as required on Contract Drawings. Where main protection is required, automatic circuit breakers shall be used. A neutral bus of at least the same capacity as a live bus bar shall be provided for the connection of all neutral conductors. Each terminal shall be identified. All current carrying parts, exclusive of circuit breakers, shall be of copper with a minimum number of joints. The bus bar structure shall be a self-supporting unit, firmly fastened to a ½



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inch plastic board, extending the full length and width of assembly which shall serve to insulate the bus structure from the back of panel box. Other methods affording equally effective bus structure support and insulation will be given consideration. An insulating barrier shall separate neutral bus from other parts of panel.

- D. **CIRCUIT BREAKER ASSEMBLY:** The entire circuit breaker and bus bar assembly shall be mounted on an adjustable metal base or pan and secured to the back of panel box. The panel shall have edges flanged for rigidity.
- E. **PANEL MOUNTING:** The panel shall be centered in the panel box to line up with door openings and set level and plumb so that no live parts are exposed with the door open.
- F. **PANEL CABINET:**
 - 1. **PANEL CABINET INSTALLATION:** When installed surface mounted in panel closets they shall be mounted on Kindorf channel.
 - 2. Where cabinets cannot be set entirely flush due to shallow walls or partitions or where cabinet is extra deep, the protruding sides of cabinet shall be trimmed with a metal or hardwood return molding of approved design and fastened to cabinet so as to conceal the intersection between the wall and cabinet.
- G. **NAMEPLATES:** Nameplates where required, shall be made of engraved Lamicoid sheet, or approved equal. Letters and numbers shall be engraved white on a black background (except for Firehouse projects which shall have white letters on a red background). The Contractor shall submit an engraved sample for approval as to design and style of lettering before proceeding with the manufacture of the nameplate. Nameplates shall be of suitable size and shall also be provided at the top of the switchboard or section thereof and on the trim at the top of all lighting and power panels. Similar nameplates shall also be provided for each distribution circuit breaker giving the breaker number, the number of the feeder, and the name of the equipment fed.
- H. **SHOP DRAWINGS:** showing all details of boxes, panels, etc., shall be submitted for approval.
- I. **DIRECTORIES:** A directory shall be fastened with brass screws and consist of a noncorrosive metal frame with dimensions not less than five (5) inches x eight (8) inches and a transparent window of Plasticile, Plexiglass, Lucite, Polycarbonate or approved equal that is not less than 1/16 inch thick over cardboard or heavy paper. The directory shall be typewritten and show the number of each circuit, the name of circuit and lighting or equipment supplied. The size of riser feeder shall be as indicated on directory. The dimensions of directory shall be submitted for approval for each size of panel.
- J. **CONSTRUCTION**
 - 1. **FINISH:** Panel boxes, doors and trim for installation in dry locations, shall be zinc coated after fabrication by the hot-dip galvanizing or electroplate process on inside and outside surfaces. In damp locations, panel boards shall be enclosed and gasketed NEMA 3R type. Panel boards located outdoors or exposed to the weather shall be NEMA 3X type.
 - 2. **PAINTING:** Panel boxes, doors and trim shall receive a coat of approved priming paint and a second coat of approved paint in the field after installation. Paint shall be applied to the inside and outside of boxes and on both sides of trim. Panel trims and doors shall receive a third or finishing coat on the outside after installation. Approval as to texture and color must be obtained before the final coat is applied.



REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.7

3.7 MOTORS:

This Section sets forth the general design, construction and performance requirements, which shall apply to all motors furnished in the Contract.

- A. **MOTOR DESIGN:** All motors shall be designed to comply with the New York State Energy Conservation Construction Code and the New York City Energy Conservation Code. In the event of any conflict or inconsistency between such codes, the New York City Energy Conservation Code shall prevail. Motors shall have standard NEMA frames and shall have nameplate ratings adequate to meet the specified conditions of operation. Motor performance under variable conditions of voltage and frequency shall be within the limits set in NEMA standards, unless modified in the Specifications. Motors shall be expressly designed for the hazard duty load, voltage and frequency as specified in the Contract. All motor windings shall be copper. All motors intended to operate on a 208 volt system shall be designed and rated for 200 volts.
- B. **STANDARDS OF COMPARISON:** In the absence of specific motor specifications, in general, the best standard products of the leading motor manufacturers shall be considered as a standard for comparison. The requirements of the NEMA standards for motors and generators shall be deemed to contain the minimum requirements of performance and design.
- C. **OBJECTIONABLE NOISES:** Objectionable noises will not be tolerated and exceptionally quiet motors may be required for certain specified locations. Noise control tests as per the New York City Construction Codes may be performed as directed by the Commissioner. Such motors shall bear a nameplate lettered "Quiet Motor." Springs and slip rings shall be of approved non-ferrous material.
- D. **BEARINGS:**
1. Bearings, unless specified otherwise, shall be of the ball or roller type. Motors one (1) horsepower and larger that are equipped with ball roller bearings shall also have lubrication of the pressure-relief greasing type. The Contractor furnishing four (4) or more such motors shall also furnish, as part of the Contract, a pressure grease gun of rugged design, of approximately 10 ounce capacity, complete with necessary adapters. The Contractor shall also provide 10 pounds of approved gun grease.
 2. For any particular unit where sleeve bearings are deemed desirable, permission for their use may be granted by the Commissioner. Motors one (1) horsepower and larger that are equipped with sleeve type bearings shall in addition to having protected accessible fittings for oiling be provided with visible means for determining normal oil level. Lubrication shall be positive, automatic and continuous.
- E. **MOTOR TERMINALS AND BOXES:** Each motor shall be furnished with flexible leads of sufficient length to extend for a distance of not less than three (3) inches beyond the face of the conduit terminal box. This box shall be furnished of ample size to make and house motor connections. These requirements shall be met irrespective of any other standards or practices. Size of cable terminals and conduit terminal box holes shall be subject to approval. For motors five (5) horsepower or larger, each terminal shall come with two (2) cast or forged copper pressure type connectors with bolts, nuts and washers. For motors of smaller ratings, connectors of other acceptable types may be furnished. For installations exposed to the weather or moist locations, terminal boxes shall be of cast iron with threaded hubs and gasketed covers. Cover screws shall be of non-corrosive material.
- F. **MOTOR TEMPERATURE RISES:** The motor nameplate temperature rises for the various types of motor enclosures shall be as listed below:
- | | |
|---|---------------|
| 1. Open Frame | 40 degrees C. |
| 2. Totally enclosed and enclosed fan cooled | 55 degrees C. |



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3. Explosion proof and submersible 55 degrees C.
4. Partially enclosed and drip proof 40 degrees C.

The temperature of the various parts of a motor shall meet the requirements of NEMA standards for the size and type of the motors. Tests for heating shall be made by loading the motor to its rated horsepower and keeping it so loaded for the rated time interval or until the temperature becomes constant.

- G. SPECIAL CODE INSTALLATIONS: Electrical installations covered by special publications of NBFU and by special City rulings and regulations shall comply in design and safety features with such applicable codes, regulations and rulings, and shall be furnished and installed complete with all accessories and safety devices as therein specified.
- H. MOTORS ON LIGHTING PANELS: The largest A.C. motor permitted on branch circuits of lighting panels shall not exceed 1/4 horsepower.
- I. MOTORS RATED: 1/2 horsepower and larger shall be polyphase.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.8

3.8 MOTOR CONTROL EQUIPMENT:

This Section sets forth the requirements for motor controllers and associated devices. Such requirements are applicable to all motor control equipment furnished or installed.

- A. MANUFACTURER: All control equipment furnished under the Contract shall be the product of a single manufacturer. Exceptions to this rule may be granted in the case of controllers for fractional horsepower motors driving special equipment, the various units of which have been engineered to obtain specific performance.
- B. CONTROL ITEMS REQUIRED: The Contractor furnishing motors shall also furnish therewith complete disconnecting, starting and control equipment as required by the detailed Specifications, the various code authorities and for the successful operation of the driven equipment. These items include circuit breaker, magnetic starter with overload protection and low voltage release or protection, push button stations, pilot lights and alarms, float, pressure, temperature and limit switches, load transfer switches, devices for manual operation and speed controllers, etc. The Contractor shall furnish as many of these items as are required for the successful operation of the driven unit.
 1. Where a motor is to be located out of sight of the controller, the Contractor shall furnish an approved disconnecting means to be mounted near motor.
- C. TYPES OF STARTERS:
 1. SQUIRREL CAGE: A.C. motors of the squirrel cage type, rated from one (1) to 30 horsepower, shall have magnetic across the line starters; motors rated above 30 horsepower shall be furnished with reduced voltage (autotransformer type) starter or part winding start with time delay to reduce inrush current. Size of starters shall be based on 200V operation.
 2. SLIP RING: A.C. Motors of the slip-ring type shall be furnished with primary across the line starters interlocked with secondary starting and regulating equipment. The interlocking feature shall prevent starting of the motor when the secondary controller is off the initial starting point.
 3. MAGNETIC: For fractional horsepower motors, magnetic type starters are not required unless the particular method of controlling the driven equipment makes them necessary. Where individual single phase fractional horsepower motors or the sum of fractional horsepower motors controlled by an automatic device are 1/2 horsepower or more, magnetic starters and circuit breakers shall be used. Single phase A.C. motors smaller than 1/2 horsepower or three-phase A.C. motors smaller than one (1) horsepower where manual control is specified may be furnished with starters of toggle



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switch or push button type with inbuilt thermal protection. No additional disconnecting means is required to be furnished with this type of starter. This type of starter may also be used in series with automatic control devices such as thermostats, float and pressure switches, provided the individual motor or the sum of fractional horsepower motors is less than ½ horsepower. Means for manual operation shall be provided.

- D. **DISCONNECTING BREAKER:** All motor starters, unless otherwise specified, shall be provided with a disconnecting means in the form of a circuit breaker of the type specified under Article 3.5 **CIRCUIT PROTECTIVE DEVICES**. This disconnecting means shall be contained in the same housing with the starter and shall be operable from outside. Means shall be provided for locking the handle of the circuit breaker in the "OFF" position if it is desired to take the equipment out of service and prevent unauthorized starting.
- E. **CONTROL CABINET: DRY LOCATIONS -** All starters shall be furnished with general purpose, NEMA Type 1, sheet metal enclosures with hinged covers and baked enamel finish.
- F. **CONTROL CABINET – WATERTIGHT:** In wet locations, cast iron watertight enclosures with threaded hubs, galvanized and gasketed hinged covers shall be provided.
- G.
 - 1. **PANELS:** Motor control devices and appliances shall be mounted on approved insulating slabs with all wiring and connections made on the back of the slabs.
 - 2. **WIRING AND TERMINALS:** Wiring connections for currents of 100 Amperes or less may be made with copper wire or cable with special flameproof insulating coverings. Such wires shall be installed in a neat workmanlike manner, flat against the slab, and held in place by clips. Connections shall be made with pressure connectors for No. 8 AWG and larger wires, and with grommets for small stranded wires. Except for incoming and outgoing main leads, all connections shall terminate on approved connector blocks, which may be installed on the face of the slab. For small, across the line starters, the above requirements may be modified if satisfactory connections are provided.
 - 3. **COPPER BUS:** For currents exceeding 100 Amperes, copper bus shall be used in place of wires. The bus shall be constructed of copper rods, tubing or flat strap, bent and shaped properly and securely attached to the slab in a neat and workmanlike manner. The cross section of copper shall provide sufficient areas to keep current density at not more than 1,000 Amperes per square inch.
- H. **COOPERATION:** The Contractor's subcontractor(s) who furnish electrically operated equipment shall give to the Contractor and the Contractor's electrical subcontractor full information relative to sizes and locations of apparatus furnished by them which require electrical connections.
- I. **SPARE PARTS:**
 - 1. **FURNISH:** The Contractor shall furnish the following spare parts pertaining to equipment furnished by each subcontractor.
 - One (1) set of contact fingers and springs and thermal elements for each three (3) (or fraction) of each size of magnetic contactor starter.
 - One (1) holding coil for each three (3) (or fraction) of each size of magnetic contactor starter.
 - 2. **WRAPPER MARKING:** All parts shall be delivered to the Resident Engineer neatly wrapped and boxed and plainly tagged and marked for identification and reordering.

END OF SECTION 01 35 06



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SECTION 01 35 26 SAFETY REQUIREMENTS PROCEDURES

PART I – GENERAL

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].
- B. The Contractor shall comply with the requirements of "*The City of New York Department of Design and Construction Safety Requirements*". This document is included in the Information for Bidders.

1.2 SUMMARY:

- A. This Section includes administrative and general procedural requirements for Safety and Health Requirements, including:
 - 1. Definitions
 - 2. Required Safety Meeting
 - 3. Compliance with Regulations
 - 4. Submittals
 - 5. Personnel Protective Equipment
 - 6. Hazardous Materials
 - 7. Emergency Suspension of Work
 - 8. Protection of Personnel
 - 9. Environmental Protection

1.3 DEFINITIONS:

- A. Refer to Article 2 of the Contract for definition of terms, words and expressions used in the General Conditions not otherwise defined herein.
- B. Design Consultant: "Design Consultant" shall mean the entity responsible for providing design services for the Project, including without limitation, preparing the construction documents (drawings and specifications) and providing services in connection with such documents during construction. The entity serving as the "Design Consultant" may be a corporation, firm, partnership, joint venture, individual or combination thereof. Such entity may be either an employee(s) of the City or an entity engaged by the City to provide such services.

1.4 REQUIRED SAFETY MEETINGS:

- A. Prior to commencing construction, the Resident Engineer will schedule and hold a preconstruction kick-off meeting either at DDC's main office or at the Project site with representatives of the Contractor, including the principal on-site project representative and one or more safety representatives, Commissioner's designated representatives and other concerned parties for the purpose of reviewing the Contract Safety requirements. The Contractor's safety requirements shall be reviewed, and implementation of safety provisions pertinent to the Work shall be discussed.
- B. The Contractor is responsible for conducting weekly documented jobsite safety meetings, given to all jobsite personnel including all subcontractors on the project, with the purpose of discussing safety topics and job specific requirements at the DDC worksite.



1.5 COMPLIANCE WITH REGULATIONS:

- A. The Work, including contact with or handling of hazardous materials, disturbance or dismantling of structures containing hazardous materials, and disposal of hazardous materials, shall comply with the applicable requirement for CFR Parts 1910 and 1926, and 40 CFR, Parts 61, 261, 761 and 763.
- B. Work involving disturbance or dismantling of asbestos or asbestos containing materials, demolition of structures containing asbestos and removal of asbestos, shall comply with 40 CFR Part 61, Subparts A and M, and 40 CFR Part 763, as applicable.
- C. Work shall additionally comply with all applicable federal, state and local safety and health regulations.
- D. In case of a conflict between applicable regulations, the more stringent requirements shall apply.
- E. All workers working on the DDC project site are required by NYC Local Law 41 to complete the OSHA 10 -hour training course.

1.6 SUBMITTALS:

- A. The Contractor shall submit, to the Resident Engineer, copies of the Safety Program, Site Safety Plan and other required documentation in accordance with the "New York City Department of Design and Construction Safety Requirements."
- B. Permits: If hazardous materials are disposed of off-site submit copies of shipping manifests and permits from applicable federal, state or local authorities and disposal facilities, and submit certificates that the material has been disposed of in accordance with regulations to the Resident Engineer.
- C. Accident Reporting: Submit a copy of each accident report to the Resident Engineer in accordance with the "New York City Department of Design and Construction Safety Requirements."
- D. All Asbestos and Lead project regulatory notifications are to be submitted to DDC's Bureau of Environmental and Geotechnical Services (BEGS) through the Resident Engineer.
- E. Request for Subcontractor Approval: Any subcontractor performing environmental work shall submit required documentation for approval to perform such work as required by DDC's BEGS.

PART II – PRODUCTS

2.1 PERSONNEL PROTECTIVE EQUIPMENT:

Special facilities, devices, equipment and similar items used by the Contractor in execution of the Work shall comply with 29 CFR Part 1910, subpart I, Part 1926, subpart E and other applicable regulations.

2.2 HAZARDOUS MATERIALS:

- A. The Contractor shall bring to the attention of the Commissioner, any material encountered during execution of the Work that the Contractor suspects to be hazardous.
- B. The Commissioner shall determine whether the Contractor shall perform tests to determine if the material is hazardous. A change to the Contract price may be provided, subject to the applicable provisions of the Contract.
- C. If the material is found to be hazardous, the Commissioner may direct the Contractor to remediate the hazard and a change to the Contract price may be provided, subject to the applicable provisions of the Contract.



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PART III – EXECUTION

3.1 EMERGENCY SUSPENSION OF WORK:

- A. When the Contractor is notified by the Commissioner of noncompliance with the safety provisions of the Contract, the Contractor shall immediately, unless otherwise instructed, correct the unsafe condition, at no additional cost to the City.
- B. If the Contractor fails to comply promptly, all or part of the Work may be stopped by notice from the Commissioner.
- C. When, in the opinion of the Commissioner, the Contractor has taken satisfactory corrective action, the Commissioner shall provide written notice to the Contractor that work may resume.
- D. The Contractor shall not be allowed any extension of time or compensation for damages in connection with a work stoppage for an unsafe condition.

3.2 PROTECTION OF PERSONNEL:

- A. The Contractor shall take all necessary precautions to prevent injury to the public, occupants, or damage to property of others. The public and occupants includes all persons not employed by the Contractor or a subcontractor.
- B. Whenever practical, the work area shall be fenced, barricaded or otherwise blocked off from the Public or occupants to prevent unauthorized entry into the work area, in compliance with the requirements of Section 01 50 00, TEMPORARY FACILITIES, SERVICES AND CONTROLS, and including, without limitation, the following:
 - 1. Provide traffic barricades and traffic control signage where construction activities occur in vehicular areas.
 - 2. Corridors, aisles, stairways, doors and exit ways shall not be obstructed or used in a manner to encroach upon routes of ingress or egress utilized by the public or occupants, or to present an unsafe condition to the public or occupants.
 - 3. Store, position and use equipment, tools, materials, scraps and trash in a manner that does not present a hazard to the public or occupant by accidental shifting, ignition or other hazardous activity.
 - 4. Store and transport refuse and debris in a manner to prevent unsafe and unhealthy conditions for the public and occupants. Cover refuse containers, and remove refuse on a frequent regular basis acceptable to the Resident Engineer. Use tarpaulins or other means to prevent loose transported materials from dropping from trucks or other vehicles.

3.3 ENVIRONMENTAL PROTECTION:

- A. Dispose of solid, liquid and gaseous contaminants in accordance with local codes, laws, ordinances and regulations.
- B. Comply with applicable federal, state and local noise control laws, ordinances and regulations, including but not limited to 29 CFR 1910.95, 29 CFR 1926.52 and NYC Administrative Code Chapter 28 of Title 15.

END OF SECTION 01 35 26



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SECTION 01 35 91
HISTORIC TREATMENT PROCEDURES

REFER TO THE ADDENDUM FOR APPLICABILITY OF THIS SECTION 01 35 91

PART I – GENERAL

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].

1.2 SUMMARY:

- A. This Section includes administrative and procedural requirements for the treatment of Landmark Structures and Landmark Quality Structures, as identified in the Addendum. Specific requirements are indicated in other sections of the Specifications.
- B. This Section includes, without limitation, the following:
1. Storage and protection of existing historic materials
 2. Temporary protection of historic materials during construction
 3. General Protection
 4. Protection during use of heat-generating equipment
 5. Photographic Documentation
 6. NYC Landmarks Preservation Commission Final Approval signoffs

1.3 RELATED SECTIONS: include without limitation the following:

- A. Section 01 10 00 SUMMARY
- B. Section 01 32 33 PHOTOGRAPHIC DOCUMENTATION
- C. Section 01 33 00 SUBMITTAL PROCEDURES
- D. Section 01 77 00 CLOSEOUT PROCEDURES
- E. Section 01 78 39 CONTRACT RECORD DOCUMENTS

1.4 DEFINITIONS:

- A. Refer to Article 2 of the Contract for definition of terms, words and expressions used in the General Conditions not otherwise defined herein.
- B. Design Consultant: "Design Consultant" shall mean the entity responsible for providing design services for the Project, including without limitation, preparing the construction documents (drawings and specifications) and providing services in connection with such documents during construction. The entity serving as the "Design Consultant" may be a corporation, firm, partnership, joint venture, individual or combination thereof. Such entity may be either an employee(s) of the City or an entity engaged by the City to provide such services.
- C. Landmark Structure or Site: Any building or site which has been designated as a landmark, or any building or site within a landmark district, as designated by the New York City Preservation Commission or the New York State Historic Preservation Office.



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- D. Landmark Quality Structure: Any building which has been determined by the City to be of landmark quality and/or historical significance.
- E. Preservation: To apply measures necessary to sustain the existing form, integrity, and materials of a historic property. Work may include preliminary measures to protect and stabilize the property.
- F. Rehabilitation: To make possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features that convey its historical, cultural, or architectural values.
- G. Restoration: To accurately depict the form, features, and character of a property as it appeared at a particular period of time by means of the removal of features from other periods in its history and the reconstruction of missing features from the restoration period.
- H. Reconstruction: To reproduce in the exact form and detail a building, structure, or artifact as it appeared at a specific period in time.
- I. Stabilize: To apply measures designed to reestablish a weather-resistant enclosure and the structural reinforcement of an item or portion of the building while maintaining the essential form as it exists at present.
- J. Protect and Maintain: To remove deteriorating corrosion, reapply protective coatings, and install protective measures such as temporary guards; to provide the least degree of intervention.
- K. Repair: To stabilize, consolidate, or conserve; to retain existing materials and features while employing as little new material as possible. Repair includes patching, piecing-in, splicing, consolidating, or otherwise reinforcing or upgrading materials. Within restoration, repair also includes limited replacement in kind, rehabilitation, and reconstruction, with compatible substitute materials for deteriorated or missing parts of features when there are surviving prototypes.
- L. Replace: To duplicate and replace entire features with new material in kind. Replacement includes the following conditions:
 - 1. Duplication: Includes replacing elements damaged beyond repair or missing. Original material is indicated as the pattern for creating new duplicated elements.
 - 2. Replacement with New Materials: Includes replacement with new material when original material is not available as patterns for creating new duplicated elements.
 - 3. Replacement with Substitute Materials: Includes replacement with compatible substitute materials. Substitute materials are not allowed, unless otherwise indicated.
- M. Remove: To detach items from existing construction and legally dispose of them off-site, unless indicated to be removed and salvaged or removed and reinstalled.
- N. Remove and Salvage: To detach items from existing construction and deliver them to the City ready for reuse.
- O. Remove and Reinstall: To detach items from existing construction, repair and clean them for reuse, and reinstall them where indicated.
- P. Existing to Remain or Retain: Existing items of construction that are not to be removed and that are not otherwise indicated to be removed and salvaged, or removed and reinstalled.



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- Q. Material in Kind: Material that matches existing materials, as much as possible, in species, cut, color, grain, and finish.

1.5 SUBMITTALS:

- A. Historic Treatment Program: Submit a written plan for each phase or process, including protection of surrounding materials during operations. Describe in detail materials, methods, and equipment to be used for each phase of work.
- B. Alternative Methods and Materials: If alternative methods and materials to those indicated are proposed for any phase of work, submit for Commissioner's approval a written description including evidence of successful use on other comparable projects, and program of testing to demonstrate effectiveness for use on this Project.
- C. Qualification Data: For historic treatment specialists as specified and required by individual sections of the project specifications.
- D. Photographs for Designated Landmark Structures: Submit photographs in accordance with Section 01 32 33, PHOTOGRAPHIC DOCUMENTATION and as described in this section.
- E. Record Documents: Include modifications to manufacturer's written instructions and procedures, as documented in the historic treatment preconstruction conference and as the Work progresses.

1.6 QUALITY ASSURANCE:

- A. Special Experience Requirements: Special Experience Requirements may apply to the firm that will provide Historic Treatment Services. If applicable, such Special Experience Requirements are set forth in the Bid Booklet and the Addendum.
- B. Historic Treatment Preconstruction Conference: The Resident Engineer will schedule and hold a preconstruction meeting at the site in accordance with Section 01 31 00, PROJECT MANAGEMENT AND COORDINATION.
 - 1. Review manufacturer's written instructions for precautions and effects of products and procedures on building materials, components, and vegetation.
 - a. Record procedures established as a result of the review and distribute to affected parties.

1.7 STORAGE AND PROTECTION OF HISTORIC MATERIALS:

- A. Removed and Salvaged Historic Materials: As specified and required by individual sections of the project specifications.
- B. Removed and Reinstalled Historic Materials: As specified and required by individual sections of the project specifications.
- C. Existing Historic Materials to Remain: Protect construction indicated to remain against damage and soiling during historic treatment. When permitted by the Commissioner, items may be removed to a suitable, protected storage location during historic treatment and reinstalled in their original locations after historic treatment operations are complete.
- D. Storage and Protection: When removed from their existing location, store historic materials, at a location acceptable to the Commissioner, within a weather tight enclosure where they are protected from wetting by rain, snow, or ground water, and temperature variations. Secure stored materials to protect from theft.
 - 1. Identify removed items with an inconspicuous mark indicating their original location.



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PART II – PRODUCTS (Not Used)

PART III – EXECUTION

3.1 PROTECTION, GENERAL:

- A. Comply with manufacturer's written instructions for precautions and effects of products and procedures on adjacent building materials, components, and vegetation.
- B. Ensure that supervisory personnel are present when work begins and during its progress.
- C. Temporary Protection of Historic Materials during Construction:
 - 1. Protect existing materials during installation of temporary protections and construction. Do not deface or remove existing materials.
 - 2. Attachments of temporary protection to existing construction shall be approved by the Commissioner prior to installation.
- D. Protect landscape work adjacent to or within work areas as follows:
 - 1. Provide barriers to protect tree trunks.
 - 2. Bind spreading shrubs.
 - 3. Use coverings that allow plants to breathe and remove coverings at the end of each day. Do not cover plant material with a waterproof membrane for more than 8 hours at a time.
 - 4. Set scaffolding and ladder legs away from plants.
- E. Existing Drains: Prior to the start of work or any cleaning operations, test drains and other water removal systems to ensure that drains and systems are functioning properly. Notify Commissioner immediately of drains or systems that are stopped or blocked. Do not begin Work of this Section until the drains are in working order.
 - 1. Provide a method to prevent solids, including stone or mortar residue, from entering the drains or drain lines. Clean out drains and drain lines that become blocked or filled by sand or any other solids because of work performed under this Contract.
 - 2. Protect storm drains from pollutants. Block drains or filter out sediments, allowing only clean water to pass.

3.2 PROTECTION DURING USE OF HEAT-GENERATING EQUIPMENT:

- A. No roofing work requiring the use of an open flame shall be permitted on any Landmark Structure or any Landmark Quality Structure, whose roof or wall structure is made of wood or primarily of wood.
- B. Comply with the following procedures while performing work with heat-generating equipment, including welding, cutting, soldering, brazing, paint removal with heat, and other operations where open flames or implements utilizing heat are used:
 - 1. Obtain Commissioner's approval for operations involving use of open-flame or welding equipment. Notification shall be given for each occurrence and location of work with heat-generating equipment.
 - 2. As far as practical, use heat-generating equipment in shop areas or outside the building.
 - 3. Before work with heat-generating equipment commences, furnish personnel to serve as a fire watch (or watches) for location(s) where work is to be performed.



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4. Do not perform work with heat-generating equipment in or near rooms or in areas where flammable liquids or explosive vapors are present or thought to be present. Use a combustible gas indicator test to ensure that the area is safe.
 5. Remove and keep the area free of combustibles, including, rubbish, paper, waste, etc., within area of operations.
 6. If combustible material cannot be removed, provide fireproof blankets to cover such materials.
 7. Where possible, furnish and use baffles of metal or gypsum board to prevent the spraying of sparks or hot slag into surrounding combustible material.
 8. Prevent the extension of sparks and particles of hot metal through open windows, doors, holes, and cracks in floors, walls, ceilings, roofs, and other openings.
 9. Inspect each location of the day's work not sooner than 30 minutes after completion of operations to detect hidden or smoldering fires and to ensure that proper housekeeping is maintained.
- C. Where sprinkler protection exists and is functional, maintain it without interruption while operations are being performed. If operations are performed close to automatic sprinkler heads, shield the individual heads temporarily with guards.

3.3 PHOTOGRAPHIC DOCUMENTATION:

Photographs for Designated Landmark Structures: Show existing conditions prior to any historic treatments, including one overall photograph and two close-up photographs of all areas of work affected. Show one overall photograph and two close-up photographs of all areas of work after the successful execution of all historical treatments.

3.4 NEW YORK CITY LANDMARKS PRESERVATION COMMISSION FINAL APPROVALS SIGNOFF:

For all projects involving a Landmark Structure or Site, the Contractor, at the completion of the work, shall submit to the Commissioner, in accordance with Section 01 78 39, CONTRACT RECORD DOCUMENTS, all documentation concerning the successful execution of all historic treatments. This shall include, but not be limited to, copies of all before and after photographs of historic treatments, one copy of the Contractor's as-built drawings, copies of testing and analysis results, including cleaning, mortar analysis, pointing mortars and all other information pertaining to work performed under the New York City Landmarks Preservation Commission jurisdiction.

END OF SECTION 01 35 91



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SECTION 01 40 00 QUALITY REQUIREMENTS

PART I – GENERAL

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].

1.2 SUMMARY:

- A. This Section includes the following:
- a. Definitions
 - b. Conflicting Requirements
 - c. Quality Assurance
 - d. Quality Control
 - e. Approval of Materials
 - f. Special Inspections (Controlled Inspection)
 - g. Inspections by Other City Agencies
 - h. Certificates of Approval
 - i. Acceptance Tests
 - j. Repair and Protection
- B. This Section includes administrative and procedural requirements for quality control to assure compliance with quality requirements specified in the Contract Documents.
- C. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
- D. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and -control procedures that facilitate compliance with the Contract Document requirements.
- E. Provisions of this Section do not limit requirements for the Contractor to provide quality-assurance and -control services required by the Commissioner or authorities having jurisdiction.
- F. Specific test and inspection requirements are specified in the individual sections of the Specifications.
- G. LEED: Refer to the Addendum to identify whether this project is designed to comply with a Certification Level according to the U.S. Green Building Council's Leadership in Energy & Environmental Design (LEED) Rating System, as specified in Section 01 81 13, "SUSTAINABLE DESIGN REQUIREMENTS FOR LEED BUILDINGS."
- H. COMMISSIONING: Refer to the Addendum to identify whether this project will be Commissioned by an independent third party under separate contract with the City of New York. Commissioning shall be in accordance with ASHRAE and USGBC LEED-NC procedures, as described in Section 01 91 13, GENERAL COMMISSIONING REQUIREMENTS. The Contractor shall cooperate with the commissioning agent and provide whatever assistance is required.



1.3 RELATED SECTIONS: Include without limitation the following:

- A. Section 01 10 00 SUMMARY
- B. Section 01 31 00 PROJECT MANAGEMENT AND COORDINATION
- C. Section 01 32 00 CONSTRUCTION PROGRESS DOCUMENTATION
- D. Section 01 33 00 SUBMITTAL PROCEDURES
- E. Section 01 77 00 CLOSEOUT PROCEDURES
- F. Section 01 78 39 CONTRACT RECORD DOCUMENTS

1.4 DEFINITIONS:

- A. Refer to Article 2 of the Contract for definition of terms, words and expressions used in the General Conditions not otherwise defined herein.
- B. Design Consultant: "Design Consultant" shall mean the entity responsible for providing design services for the Project, including without limitation, preparing the construction documents (drawings and specifications) and providing services in connection with such documents during construction. The entity serving as the "Design Consultant" may be a corporation, firm, partnership, joint venture, individual or combination thereof. Such entity may be either an employee(s) of the City or an entity engaged by the City to provide such services.
- C. Commissioning: A Total Quality Assurance process that includes checking the design and installation of equipment, as well as performing functional testing of the same to confirm that the installed equipment is operating and in conformance with the Contract Documents and the City's requirements.

1.5 CONFLICTING REQUIREMENTS:

- A. General: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, the Contractor shall comply with the most stringent requirement as determined by the Commissioner. The Contractor shall refer any uncertainties and/or conflicting requirements to the Commissioner for a decision before proceeding.
- B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. The Contractor shall refer any uncertainties to the Commissioner for a decision before proceeding.

1.6 QUALITY ASSURANCE:

- A. General: Qualifications paragraphs in this Article establish the minimum qualification levels required. Individual Specification Sections specify additional requirements.
- B. Installer Qualifications: Special Experience Requirements may apply to the firm that will install, erect or assemble specified work required for the Project. If applicable, such Special Experience Requirements are set forth in the Bid Booklet and the Addendum.
- C. Manufacturer Qualifications: Special Experience Requirements may apply to the firm that will manufacture equipment, products or systems specified for the Project. If applicable, such Special Experience Requirements are set forth in the Bid Booklet and the Addendum.



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- D. Fabricator Qualifications: Special Experience Requirements may apply to the firm that will fabricate material, products or systems specified for the Project. If applicable, such Special Experience Requirements are set forth in the Bid Booklet and the Addendum.
- E. Professional Engineer Qualifications: A professional engineer who is licensed to practice in the State of New York and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or products that are similar to those indicated for this Project in material, design, and extent.
- F. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
- G. Mockups: Before installing portions of the Work requiring mockups, build mockups for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work:
 - 1. Build mockups in location and of size indicated or, if not indicated, as directed by the Resident Engineer.
 - 2. Notify Resident Engineer seven (7) days in advance of dates and times when mockups will be constructed.
 - 3. Demonstrate the proposed range of aesthetic effects and workmanship.
 - 4. Obtain Design Consultant's approval of mockups before starting work, fabrication, or construction.
 - 5. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
 - 6. Demolish and remove mockups when directed, unless otherwise directed or indicated.

1.7 QUALITY CONTROL:

- A. City's Responsibilities: Where quality-control services are indicated as the City's responsibility in the Specifications, the City will engage a qualified testing agency to perform these services.
 - 1. COST OF TESTS BORNE BY THE CITY: Where the City directs tests to be performed to determine compliance with the Specifications regarding materials or equipment, and where such compliance is ascertained as a result thereof, the City will bear the cost of such tests.
 - 2. The City will furnish the Contractor with names, addresses, and telephone numbers of testing entities engaged and a description of the types of testing and inspecting they are engaged to perform.
 - 3. Costs for retesting and re-inspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to the Contractor.
- B. Contractor's Responsibility: Tests and inspections not explicitly assigned to the City are the Contractor's responsibility. Unless otherwise indicated, the Contractor shall provide quality-control services as set forth in the Specifications and those required by Authorities having jurisdiction. The Contractor shall provide quality-control services required by Authorities having jurisdiction, whether specified or not.
 - 1. COST OF TESTS BORNE BY CONTRACTOR – In the case of tests which are specifically called for in the Specifications to be provided by the Contractor or tests which are required by any Authority having jurisdiction, but are not indicated as the responsibility of the City, the cost thereof shall be borne by the Contractor and shall be deemed to be included in the Contract price. The Contractor shall reimburse the City for expenditures incurred in providing tests on materials and equipment submitted by the Contractor as the equivalent of that specifically named in the Specifications and rejected for non-compliance.
 - 2. Where services are indicated as Contractor's responsibility, the Contractor shall engage a qualified testing agency to perform these quality-control services. Any testing agency engaged by the Contractor to perform quality control services is subject to prior approval by the Commissioner.



3. The Contractor shall not employ same entity engaged by the City, unless agreed to in writing by the Commissioner.
 4. The Contractor shall notify testing agencies and the Resident Engineer at least 72 hours in advance of the date and time for the performance of Work that requires testing or inspecting.
 5. Where quality-control services are indicated as Contractor's responsibility, the Contractor shall submit a certified written report, in triplicate to the Commissioner, of each quality-control service.
 6. Testing and inspecting requested by the Contractor and not required by the Contract Documents are Contractor's responsibility.
 7. The Contractor shall submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.
- C. **Manufacturer's Field Services:** Where indicated, the Contractor shall engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Results shall be submitted in writing as specified in Section 01 33 00 SUBMITTAL PROCEDURES.
- D. **Retesting/Re-inspecting:** Regardless of whether the original tests or inspections were the Contractor's responsibility, the Contractor shall provide quality-control services, including retesting and re-inspecting, for construction that replaced Work that failed to comply with the Contract Documents.
- E. **Associated Services:** The Contractor shall cooperate with entities performing required tests, inspections, and similar quality-control services, and shall provide reasonable auxiliary services as requested. The Contractor shall notify the testing agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:
1. Access to the Work.
 2. Incidental labor and facilities necessary to facilitate tests and inspections.
 3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist testing entity in obtaining samples.
 4. Facilities for storage and field curing of test samples.
 5. Delivery of samples to testing entities.
 6. Design mix proposed for use for material mixes that require control by the testing entity.
 7. Security and protection for samples and for testing and inspecting equipment at the Project site.
- F. **Coordination:** Coordinate sequence of activities to accommodate required quality-assurance and -control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.
1. Schedule times for tests, inspections, obtaining samples, and similar activities.
 2. Coordinate and cooperate with the Commissioning Authority/Agent as applicable for start-up, inspection and functional testing in the implementation of the Commissioning Plan.
- G. **Manufacturer's Directions:** Where the Specifications provide that the manufacturer's directions are to be used, such printed directions shall be submitted to the Commissioner.
- H. **Inspection of Material:** In the event that the Specifications require the Contractor to engage the services of an entity to witness and inspect any material especially manufactured or prepared for use in or part of the permanent construction, such entity shall be subject to prior written approval by the Commissioner.
1. **NOTICE** - The Contractor shall give notice in writing to the Commissioner sufficiently in advance of its intention to commence the manufacture or preparation of materials especially manufactured or prepared for use in or as part of the permanent construction. Such notice shall contain a request for inspection, the date of commencement and the expected date of completion of the manufacture or preparation of materials. Upon receipt of such notice, the Commissioner will arrange to have a representative present at such times during the manufacture as may be necessary to inspect the materials, or the Commissioner will notify the Contractor that the inspection will be made at a point



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other than the point of manufacture, or the Commissioner will notify the Contractor that inspection will be waived.

- I. No Shipping Before Inspection: The Contractor shall comply with the foregoing before shipping any material.
- J. Certificate of Manufacture: When the Commissioner so requires, the Contractor shall furnish to the Commissioner authoritative evidence in the form of Certificates of Manufacture that the materials to be used in the work have been manufactured and tested in conformity with the Specifications. These certificates shall include copies of the results of physical tests and chemical analyses where necessary, that have been made directly on the product, or on similar products being fabricated by the manufacturer. This may include such approvals as B.S.A., M.E.A., B.E.C. Advisory Board, etc.
- K. Acceptance: When materials or manufactured products shall comprise such quantity that it is not practical to make physical tests or chemical analyses directly on the product furnished, a certificate stating the results of such tests or analyses of similar materials which were concurrently produced may, at the discretion of the Commissioner, be considered as the basis for the acceptance of such material or manufactured product.
- L. Testing Compliance: The testing personnel shall make the necessary inspections and tests, and the reports thereof shall be in such form as will facilitate checking to determine compliance with the Specifications, indicating thereon all analyses and/or test data and interpreted results thereof.
- M. Reports: Six (6) copies of the reports shall be submitted and authoritative certification thereof must be furnished to the Commissioner as a prerequisite for the acceptance of any material or equipment.
- N. Rejections: If, in making any test, it is ascertained by the Commissioner that the material or equipment does not comply with the Specifications, the Contractor will be notified thereof, and will be directed to refrain from delivering said materials or equipment, or to promptly remove it from the site or from the work and replace it with acceptable material at no additional cost to the City.
- O. Furnish Designated Materials: Upon rejection of any material or equipment submitted as the equivalent of that specifically named in the Specifications, the Contractor shall immediately proceed to furnish the designated material or equipment.

1.8 APPROVAL OF MATERIALS:

- A. Local Laws: All materials, appliances and types or methods of construction shall be in accordance with the Specifications and shall in no event be less than that necessary to conform to the requirements of the New York City Construction Codes, Administrative Code and Charter of the City of New York.
- B. Approval of Manufacturer: The names of proposed manufacturers, material suppliers, and dealers who are to furnish materials, fixtures, equipment, appliances or other fittings shall be submitted to the Commissioner for approval, as early as possible, to afford proper review and analysis. No manufacturer will be approved for any materials to be furnished under the Contract unless it shall have a plant of ample capacity and shall have successfully produced similar products. All approvals of materials or equipment that are legally required by the New York City Construction Codes and other governing Authorities must be obtained prior to installation.
- C. All Materials: Fixtures, fittings, supplies and equipment furnished under the Contract shall be new and unused, except as approved by the Commissioner, and of standard first-grade quality and of the best workmanship and design. The City of New York encourages the use of recycled products where practical.
- D. INFORMATION TO SUPPLIERS - In asking for prices on materials under any item of the Contract, the Contractor shall provide the manufacturer or dealer with such complete information from the

QUALITY REQUIREMENTS

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Specifications and Contract Drawings as may in any case be necessary, and in every case the Contractor shall inform the manufacturer or dealer of all the General Conditions and requirements herein contained.

1.9 SPECIAL INSPECTIONS:

A. SPECIAL INSPECTIONS:

1. Inspection of selected materials, equipment, installation, fabrication, erection or placement of components and connections made during the progress of the Work to ensure compliance with the Contract Documents and provisions of the New York City Construction Codes, shall be made by a Special Inspector. The City of New York will retain the services of the Special Inspector and bear the costs for the performance of Special Inspections in compliance with NYC Construction Codes requirements or as additionally may be called for in the project specifications, except as noted below for Form TR-3: Technical Report for Concrete Design Mix. The Special Inspector shall be an entity compliant with the requirements of the New York City Construction Codes. The Contractor shall notify the relevant Special Inspector in writing at least 72 hours before the commencement of any work requiring special inspection.
2. Form TR3: Technical Report Concrete Design Mix: The contractor shall be responsible for, and bear all costs associated with the filing and securing of approvals, if any, for Form TR3: Technical Report Concrete Design Mix, including, but not limited to, engaging the services of a New York City licensed Concrete Testing Lab for the review and approval of concrete design mix, testing, signatures and professional seals, etc., compliant with NYC Department of Buildings requirements, for each concrete design mix.
3. The Contractor shall notify the relevant Special Inspector in writing at least 72 hours before the commencement of any work requiring Special Inspection. The contractor shall be responsible for, and bear related costs to assure that all construction or work shall remain accessible and exposed for inspection purposes until the required inspection is completed.
4. Inspections and tests performed under "Special Inspection" shall not relieve the Contractor of the responsibility to comply with the Contract Documents, and that there is no warranty given to the Contractor by the City of New York in connection with such inspection and tests or certifications made under "Special Inspections".
5. The contractor must coordinate with the Resident Engineer or DDC Project Manager to provide access and schedule the work for inspection by the Special Inspector.

1.10 INSPECTIONS BY OTHER CITY AGENCIES:

- A. Letter of Completion: Just prior to substantial completion of this Project, the Commissioner will file with the Department of Buildings, an application for a Letter of Completion or a Certificate of Occupancy for the structure.
- B. Final Inspections: In connection with the above mentioned application for a Letter of Completion or a Certificate of Occupancy and before certificates of final payments are issued, the Contractor will be required to arrange for all final inspections by the inspection staff of the Department of Buildings, Fire Department or other Governmental Agencies having jurisdiction, and secure all reports, sign offs, certificates, etc., by such inspection staff or other governmental agencies, in order that a Letter of Completion or Certificate of Occupancy can be issued promptly.

1.11 CERTIFICATES OF APPROVAL:

- A. Responsibility: The Contractor shall be responsible for and shall obtain all final approvals for the work installed under the Contract in the form of such certificates that are required by all governmental agencies having jurisdiction over the work of the Contract.
- B. Transmittal: All such certificates shall be forwarded to the Commissioner through the Resident Engineer.



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1.12 ACCEPTANCE TESTS:

- A. Government Agencies: All equipment and appliances furnished and installed under the Contract shall conform to the requirements of the Specifications, and shall in no event be less than that necessary to comply with the minimum requirements of the law and all of the governmental agencies having jurisdiction.
- B. Notice of Tests: Whenever the Specifications and/or any governmental agency having jurisdiction requires the acceptance test, the Contractor shall give written notice to all concerned of the time when these tests will be conducted.
- C. Energy: The City will furnish all energy, fuel, water and light required for tests.
- D. Labor and Materials: The Contractor shall furnish labor and all other material and instruments necessary to conduct the acceptance tests at no additional cost to the City.
- E. Certificates: The final acceptance by the Commissioner shall be contingent upon the Contractor delivering to the Commissioner all necessary certificates evidencing compliance in every respect with the requirements of the regulatory agencies having jurisdiction.
- F. Results: If the results of tests and Special Inspections indicate that the material or procedures do not meet requirements as set forth on the Contract Drawings or in the Specifications or are otherwise unsatisfactory, the Contractor shall only proceed as directed by the Resident Engineer. Additional costs resulting from retesting, re-inspecting, replacing of material and/or damage to the work and any delay caused to the schedule shall be borne by the Contractor.

PART II – PRODUCTS (Not Used)

PART III – EXECUTION

3.1 REPAIR AND PROTECTION

- A. General: On completion of testing, inspecting, sample taking, and similar services, the Contractor shall repair damaged construction and restore substrates and finishes.
 - 1. Provide materials and comply with installation requirements specified in other Specification Sections. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible.

END OF SECTION 01 40 00



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REFERENCES

PART I – GENERAL

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].

1.2 DEFINITIONS:

REFER TO THE ADDENDUM, Article IX, FOR ADDITIONAL DEFINITIONS AND REVISIONS TO THE CONTRACT AND SPECIFICATIONS

- A. Refer to Article 2 of the Contract for definition of terms, words and expressions used in the General Conditions not otherwise defined herein.
- B. "APPROVED," ETC. - "Approved," "acceptable," "satisfactory," and words of similar import shall mean and intend approved, acceptable or satisfactory to the Commissioner.
- C. Design Consultant: "Design Consultant" shall mean the entity responsible for providing design services for the Project, including without limitation, preparing the construction documents (drawings and specifications) and providing services in connection with such documents during construction. The entity serving as the "Design Consultant" may be a corporation, firm, partnership, joint venture, individual or combination thereof. Such entity may be either an employee(s) of the City or an entity engaged by the City to provide such services.
- D. "DIRECTED," "REQUIRED," ETC.- Wherever reference is made in the Contract to the work or its performance, the terms "directed," "required," "permitted," "ordered," "designated," "prescribed," "determined," and words of similar import shall, unless expressed otherwise, imply the direction, requirements, permission, order, designation or prescription of the Commissioner.
- E. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown," "noted," "scheduled," and "specified" have the same meaning as "indicated."
- F. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.
- G. "Install": Operations at Project site including unloading, temporarily storing, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.
- H. "Provide": Furnish and install, complete and ready for the intended use.
- I. "Project Site": Space available for performing construction activities. The extent of Project site is shown on Drawings.



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1.3 CODES, AGENCIES AND REGULATIONS:

A.D.A.A.G.	Americans with Disabilities Act (ADA) – Architectural Barriers Act (ABA)
B.G. & E.	Bureau of Gas and Electricity of the City of New York
B.S. & A.	New York City Board of Standards and Appeals
DOE	Department of Energy
E.C.C.C.N.Y.S.	Energy Conservation Construction Code of New York State
EPA	Environmental Protection Administration
N.Y.C.C.C.	New York City Construction Codes – includes: New York City Plumbing Code New York City Building Code New York City Mechanical Code New York City Fuel Gas Code
N.Y.S.D.O.L	New York State Department of Labor
N.Y.C.D.E.P	New York City Department of Environmental Protection
N.Y.C.E.C.	New York City Electrical Code
N.Y.C.E.C.C	New York City Energy Conservation Code
N.Y.C.F.C	New York City Fire Code
N.Y.S...D.E.C.	New York State Department of Environmental Conservation
O.S.H.A.	Occupational Safety & Health Administration

1.4 INDUSTRY STANDARDS:

- A. STANDARD REFERENCES – Unless otherwise specifically indicated in the Contract Documents, whenever reference is made to the furnishing of materials or testing thereof that conforms to the standards of any technical society, organization or body, it shall be construed to mean the latest standard, code, specification adopted and published by that technical society, organization or body, as of the date of the bid opening. Unless the provisions of the New York City Construction Codes adopts a different or earlier dated version of such standard.
- B. APPLICABILITY OF STANDARDS: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect, to the extent referenced, as if bound or copied directly into the Contract Documents. Such standards are made a part of the Contract Documents by reference.
- C. CONFLICTING REQUIREMENTS: Where compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantity or quality, comply with the most stringent requirements. Immediately refer uncertainties, and requirements that are different but apparently equal, to the Commissioner in writing for a decision before proceeding.
- D. STANDARD SPECIFICATIONS - When no reference is made to a code, standard or specification, the Standard Specifications of the ASTM or the AIEE, as the case may be, shall govern.
- E. REFERENCES - Reference to a technical society, organization or body may be made in the Specifications by abbreviations. Abbreviations and acronyms used in the Specifications and other Contract Documents mean the associated name. The following names are subject to change and are



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believed, but are not assured, to be accurate and up-to-date as of the Issue Date of the Contract Documents.

AA	Aluminum Association, Inc. (The)
AAADM	American Association of Automatic Door Manufacturers
AABC	Associated Air Balance Council
AAMA	American Architectural Manufacturers Association
AASHTO	American Association of State Highway and Transportation Officials
AATCC	American Association of Textile Chemists and Colorists (The)
ABAA	Air Barrier Association of America
ABMA	American Bearing Manufacturers Association
ACI	ACI International (American Concrete Institute)
ACPA	American Concrete Pipe Association
AEIC	Association of Edison Illuminating Companies, Inc. (The)
AF&PA	American Forest & Paper Association
AGA	American Gas Association
AGC	Associated General Contractors of America (The)
AGMA	American Gear Manufacturer Association
AHA	American Hardboard Association (Now part of CPA)
AHAM	Association of Home Appliance Manufacturers
AI	Asphalt Institute
AIA	American Institute of Architects (The)
AIEE	American Institute of Electrical Engineers
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
AITC	American Institute of Timber Construction
ALCA	Associated Landscape Contractors of America (Now PLANET - Professional Landcare Network)

REFERENCES
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ALSc	American Lumber Standard Committee, Incorporated
ALI	Automotive Lift Institute
AMCA	Air Movement and Control Association International, Inc.
ANSI	American National Standards Institute
AOSA	Association of Official Seed Analysts, Inc.
APA	APA - The Engineered Wood Association
APA	Architectural Precast Association
API	American Petroleum Institute
ARI	Air-Conditioning & Refrigeration Institute
ARMA	Asphalt Roofing Manufacturers Association
ASA	American Standards Association
ASAE	American Society of Agricultural Engineers
ASCE/SEI	American Society of Civil Engineers, Structural Engineering Institute
ASHRAE	American Society of Heating, Refrigerating and Air-Conditioning Engineers
ASME	American Society of Mechanical Engineers
ASSE	American Society of Sanitary Engineering
ASTM	ASTM International (American Society for Testing and Materials International)
AWCI	AWCI International (Association of the Wall and Ceiling Industry International)
AWCMA	American Window Covering Manufacturers Association (Now WCSC)
AWI	Architectural Woodwork Institute
AWPA	American Wood-Preservers' Association
AWSC	American Welding Society
AWWA	American Water Works Association
BHMA	Builders Hardware Manufacturers Association
BIA	Brick Industry Association (The)

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BICSI	BICSI
BIFMA	BIFMA International (Business and Institutional Furniture Manufacturer's Association International)
BISSC	Baking Industry Sanitation Standards Committee
CIBSE	Chartered Institute of Building Services Engineers
CCC	Carpet Cushion Council
CDA	Copper Development Association
CEA	Canadian Electricity Association
CFFA	Chemical Fabrics & Film Association, Inc.
CGA	Compressed Gas Association
CGSB	Canadian General Standards Board
CIMA	Cellulose Insulation Manufacturers Association
CIPRA	Cast Iron Pipe Research Association
CISCA	Ceilings & Interior Systems Construction Association
CISPI	Cast Iron Soil Pipe Institute
CLFMI	Chain Link Fence Manufacturers Institute
CPA	Composite Panel Association
CPPA	Corrugated Polyethylene Pipe Association
CPSC	Consumer Product Safety Commission
CRI	Carpet & Rug Institute (The)
CRSI	Concrete Reinforcing Steel Institute
CSA	Canadian Standards Association
CSI	Cast Stone Institute
CSI	Construction Specifications Institute (The)
CSSB	Cedar Shake & Shingle Bureau
CTI	Cooling Technology Institute (Formerly: Cooling Tower Institute)



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DASMA	Door and Access Systems Manufacturer's Association International
DHI	Door and Hardware Institute
DOC	U.S. Department of Commerce – National Institute of Standards and Technology
EIA	Electronic Industries Alliance
DOJ	U.S. department of Justice
EIMA	EIFS Industry Members Association
DOL	U.S. Department of labor
EJCDC	Engineers Joint Contract Documents Committee
DOTn	U.S. Department of Transportation
EN	European Committee of Standards
EJMA	Expansion Joint Manufacturers Association, Inc.
ESD	ESD Association
EVO	Efficiency Valuation Organization
FEMA	Federal Emergency Management Agency
FIBA	Federation Internationale de Basketball Amateur (The International Basketball Federation)
FIVB	Federation Internationale de Volleyball (The International Volleyball Federation)
FMG	FM Global (Formerly: FM - Factory Mutual System)
FMRC	Factory Mutual Research (Now FMG)
FRSA	Florida Roofing, Sheet Metal & Air Conditioning Contractors Association, Inc.
FSA	Fluid Sealing Association
FSC	Forest Stewardship Council
GA	Gypsum Association
GANA	Glass Association of North America
GRI	(Now GSI)
GS	Green Seal
GSI	Geosynthetic Institute

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HI	Hydraulic Institute
HI	Hydronics Institute
HMMA	Hollow Metal Manufacturers Association (Part of NAAMM)
HPVA	Hardwood Plywood & Veneer Association
HPW	H. P. White Laboratory, Inc.
HUD	U.S. Department of Housing and Urban Development
IAPMO	International Association of Plumbing and Mechanical Officials
IAS	International Approval Services (Now CSA International)
IBF	International Badminton Federation
ICC	International Code Council, Inc.
ICEA	Insulated Cable Engineers Association, Inc.
ICRI	International Concrete Repair Institute, Inc.
IEC	International Electrotechnical Commission
IEEE	Institute of Electrical and Electronics Engineers, Inc. (The)
IESNA	Illuminating Engineering Society of North America
IEST	Institute of Environmental Sciences and Technology
IGCC	Insulating Glass Certification Council
IGMA	Insulating Glass Manufacturers Alliance
ILI	Indiana Limestone Institute of America, Inc.
ISO	International Organization for Standardization
ISSFA	International Solid Surface Fabricators Association
ITS	Intertek
ITU	International Telecommunication Union
KCMA	Kitchen Cabinet Manufacturers Association
LMA	Laminating Materials Association (Now part of CPA)
LPI	Lightning Protection Institute
MBMA	Metal Building Manufacturers Association



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MFMA	Maple Flooring Manufacturers Association, Inc.
MFMA	Metal Framing Manufacturers Association
MH	Material Handling (Now MHIA)
MHIA	Material Handling Industry of America
MIA	Marble Institute of America
MPI	Master Painters Institute
MSS	Manufacturers Standardization Society of The Valve and Fittings Industry Inc.
NAAMM	National Association of Architectural Metal Manufacturers
NACE	NACE International (National Association of Corrosion Engineers International)
NADCA	National Air Duct Cleaners Association
NAGWS	National Association for Girls and Women in Sport
NAIMA	North American Insulation Manufacturers Association
NBGQA	National Building Granite Quarries Association, Inc.
NCAA	National Collegiate Athletic Association (The)
NCMA	National Concrete Masonry Association
NCPI	National Clay Pipe Institute
NCTA	National Cable & Telecommunications Association
NEBB	National Environmental Balancing Bureau
NECA	National Electrical Contractors Association
NeLMA	Northeastern Lumber Manufacturers' Association
NEMA	National Electrical Manufacturers Association
NETA	InterNational Electrical Testing Association
NFHS	National Federation of State High School Associations
NFPA	NFPA (National Fire Protection Association)
NFRC	National Fenestration Rating Council



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NGA	National Glass Association
NHLA	National Hardwood Lumber Association
NLGA	National Lumber Grades Authority
NIS	National Institute of Standards and Technology
NOFMA	NOFMA: The Wood Flooring Manufacturers Association (Formerly: National Oak Flooring Manufacturers Association)
NRCA	National Roofing Contractors Association
NRMCA	National Ready Mixed Concrete Association
NSF	NSF International (National Sanitation Foundation International)
NSSGA	National Stone, Sand & Gravel Association
NTMA	National Terrazzo & Mosaic Association, Inc. (The)
NTRMA	National Tile Roofing Manufacturers Association (Now TRI)
NWWDA	National Wood Window and Door Association (Now WDMA)
OPL	Omega Point Laboratories, Inc. (Acquired by ITS - Intertek)
PCI	Precast / Pre-stressed Concrete Institute
PDCA	Painting & Decorating Contractors of America
PDI	Plumbing & Drainage Institute
PGI	PVC Geomembrane Institute
PLANET	Professional Landcare Network (Formerly: ACLA - Associated Landscape Contractors of America)
PPS	Power Piping Society
PTI	Post-Tensioning Institute
RCSC	Research Council on Structural Connections
RFCI	Resilient Floor Covering Institute
RIS	Redwood Inspection Service
RMI	Rack Manufacturers Institute
RTI	(Formerly: NTRMA - National Tile Roofing Manufacturers Association) (Now TRI)

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SAE	SAE International
SCAQMD	South Coast Air Quality Management District
SCS	Scientific Certification System
SDI	Steel Deck Institute
SDI	Steel Door Institute
SEFA	Scientific Equipment and Furniture Association
SGCC	Safety Glazing Certification Council
SHBI	Steel Heating Boiler Institute
SIA	Security Industry Association
SIGMA	Sealed Insulating Glass Manufacturers Association (Now IGMA)
SJI	Steel Joist Institute
SMA	Screen Manufacturers Association
SMACNA	Sheet Metal and Air Conditioning Contractors' National Association
SMPTE	Society of Motion Picture and Television Engineers
SPFA	Spray Polyurethane Foam Alliance (Formerly: SPI/SPFD - The Society of the Plastics Industry, Inc.; Spray Polyurethane Foam Division)
SPIB	Southern Pine Inspection Bureau (The)
SPRI	Single Ply Roofing Industry
SSINA	Specialty Steel Industry of North America
SSPC	SSPC: The Society for Protective Coatings
STI	Steel Tank Institute
SWI	Steel Window Institute
SWRI	Sealant, Waterproofing, & Restoration Institute
TCA	Tile Council of America, Inc.
TIA/EIA	Telecommunications Industry Association/Electronic Industries Alliance
TMS	The Masonry Society

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TPI	Truss Plate Institute, Inc.
TPI	Turfgrass Producers International
TRI	Tile Roofing Institute (Formerly: RTI - Roof Tile Institute)
UL	Underwriters Laboratories Inc.
ULC	Underwriters Laboratories of Canada
UNI	Uni-Bell PVC Pipe Association
USAV	USA Volleyball
USC	United States Code
USGBC	U.S. Green Building Council
USITT	United States Institute for Theatre Technology, Inc.
WASTEC	Waste Equipment Technology Association
WCLIB	West Coast Lumber Inspection Bureau
WCMA	Window Covering Manufacturers Association (Now WCSC)
WCSC	Window Covering Safety Council (Formerly: WCMA - Window Covering Manufacturers Association)
WDMA	Window & Door Manufacturers Association (Formerly: NWWDA - National Wood Window and Door Association)
WI	Woodwork Institute (Formerly: WIC - Woodwork Institute of California)
WIC	Woodwork Institute of California (Now WI)
WMMPA	Wood Moulding & Millwork Producers Association
WRI	Wire Reinforcement Institute, Inc.
USEPA	United States Environmental Protection Agency
WSRCA	Western States Roofing Contractors Association
WWPA	Western Wood Products Association

PART II – PRODUCTS (Not Used)

PART III – EXECUTION (Not Used)

END OF SECTION 01 42 00

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SECTION 01 50 00
TEMPORARY FACILITIES, SERVICES AND CONTROLS

PART I – GENERAL

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].

1.2 SUMMARY:

- A. This section includes the following:
- a. Temporary Water System
 - b. Temporary Sanitary Facilities
 - c. Temporary Electric Power, Temporary Lighting System, And Site Security Lighting
 - d. Temporary Heat
 - e. Dewatering Facilities And Drains
 - f. Temporary Field Office for Contractor
 - g. Resident Engineer's Office
 - h. Material Sheds
 - i. Temporary Enclosures
 - j. Temporary Partitions
 - k. Temporary Fire Protection
 - l. Work Fence Enclosure
 - m. Rodent and Insect Control
 - n. Plant Pest Control Requirements
 - o. Project Identification Signage
 - p. Security Guards/Fire Guards on Site
 - q. Project Sign and Rendering
 - r. Safety

1.3 RELATED SECTIONS: include without limitation the following:

- A. Section 01 10 00 SUMMARY
- B. Section 01 42 00 REFERENCES
- C. Section 01 54 11 TEMPORARY ELEVATORS AND HOISTS
- D. Section 01 54 23 TEMPORARY SCAFFOLDS AND SWING STAGING
- E. Section 01 77 00 CLOSE OUT PROCEDURES

1.4 DEFINITIONS:

- A. Refer to Article 2 of the Contract for definition of terms, words and expressions used in the General Conditions not otherwise defined herein.
- B. Permanent Enclosure: As determined by Commissioner, permanent or temporary roofing that is complete, insulated, and weather tight; exterior walls which are insulated and weather tight; and all openings that are closed with permanent construction or substantial temporary closures.



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- C. Design Consultant: "Design Consultant" shall mean the entity responsible for providing design services for the Project, including without limitation, preparing the construction documents (drawings and specifications) and providing services in connection with such documents during construction. The entity serving as the "Design Consultant" may be a corporation, firm, partnership, joint venture, individual or combination thereof. Such entity may be either an employee(s) of the City or an entity engaged by the City to provide such services.

1.5 SUBMITTALS:

- A. Site Plan: Show temporary facilities, utility hookups, staging areas, and parking areas for construction personnel.
- B. Reports: Submit reports of tests, inspections, meter readings and similar procedures for temporary use.

1.6 PROJECT CONDITIONS:

- A. Temporary Use of Permanent Facilities and Services: The Contractor shall be responsible for the operation, maintenance, and protection of each permanent facility and service during its use as a construction facility before Final Acceptance by the City, regardless of previously assigned responsibilities.
- B. Install, operate, maintain and protect temporary facilities, services and controls.
1. Keep temporary services and facilities clean and neat in appearance.
 2. Operate temporary services in a safe and efficient manner.
 3. Relocate temporary services and facilities as needed as Work progresses.
 4. Do not overload temporary services and facilities or permit them to interfere with progress.
 5. Provide necessary fire prevention measures.
 6. Do not allow hazardous, dangerous or unsanitary conditions, or public nuisances to develop or persist on-site.

1.7 NON-REGULAR WORK HOURS (OVERTIME):

- A. The Contractor shall provide the temporary services, facilities and controls set forth in this Section during other than regular working hours if the Drawings and/or the Specifications indicate that the Work, or specific components thereof, must be performed during other than regular working hours. In such case, all costs for the provision of temporary services, facilities and controls during other than regular working hours shall be deemed included in the total Contract Price.
- B. The Contractor shall provide the temporary services, facilities and controls set forth in this Section during other than regular working hours if a change order is issued directing the Contractor to perform the Work, or specific components thereof, during other than regular working hours. In such case, compensation for the provision of temporary services, facilities and controls during other than regular working hours shall be provided through the change order.

1.8 SERVICES BEYOND COMPLETION DATE:

- A. The Contractor shall provide the temporary services, facilities and controls set forth in this Section until the date on which it completes all required work at the site, including all punch list work, as certified in writing by the Resident Engineer, or earlier if so directed in writing by the Commissioner. The Contractor shall provide such temporary services, facilities and controls even if completion of all required work at the site occurs after the time fixed for such completion in Schedule A.



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PART II – PRODUCTS

2.1 MATERIALS:

- A. Provide undamaged materials in serviceable condition and suitable for use intended.
- B. Tarpaulins: Waterproof, fire-resistant UL labeled with flame spread rating of 15 or less. For temporary enclosures, provide translucent, nylon-reinforced, laminated polyethylene or polyvinyl chloride, fire-retardant tarpaulins.
- C. Water: Potable and in compliance with requirements of the Department of Environmental Protection.

2.2 EQUIPMENT:

- A. Provide undamaged equipment in serviceable condition and suitable for use intended.
- B. Water Hoses: Heavy-duty abrasive-resistant flexible rubber hoses, 100 feet (30 m) long with pressure rating greater than the maximum pressure of the water distribution system. Provide adjustable shutoff nozzles at hose discharge.
- C. Electric Power Cords: Grounded extension cords.
 - 1. Provide hard-service cords where exposed to abrasion or traffic.
 - 2. Provide waterproof connectors to connect separate lengths of electric cords where single lengths will not reach areas of construction activity.
 - 3. Do not exceed safe length-voltage ratio.
- D. Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.

PART III –EXECUTION:

3.1 INSTALLATION, GENERAL:

- A. Locate facilities where they will serve the Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required by progress of the Work.
- B. Provide each facility ready for use when needed to avoid delay. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities as approved by the Resident Engineer.

3.2 TEMPORARY WATER SYSTEM:

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.2 A

- A. TEMPORARY WATER SYSTEM - NEW FACILITIES: During construction, the Contractor shall furnish a Temporary Water System as set forth below.
 - 1. Immediately after the Commissioner has issued an order to start work, the Contractor shall file an application with the Dept. of Environmental Protection for the schedule of charges for water use during construction. The Contractor will be responsible for payment of water charges.
 - 2. Immediately after the Commissioner has issued an order to start work, the Contractor shall file an application with the Department of Environmental Protection's Bureau of Water Supply and obtain a permit to install the temporary water supply system. The system shall be installed and maintained for the use of the Contractor and its subcontractors. A copy of the above mentioned permit shall be filed with the Commissioner. The Contractor shall provide temporary water main, risers and waste stacks as directed and install on each floor, outlets with two (2) 3/4" hose valve connections over a barrel installed on a steel pan. The Contractor shall provide drains from the pans to the stack and house sewer and hose bibs to drain the water supply



risers and mains. During winter months, the Contractor shall take the necessary precautions to prevent the temporary water system from freezing. The Contractor shall provide repairs to the temporary water supply system for the duration of the project until said temporary system is dismantled and removed.

3. Disposition of Temporary Water System: The Contractor shall be responsible for dismantling the temporary water system when no longer required for the construction operations, or when replaced by the permanent water system installed for the project, or as otherwise directed by the Resident Engineer. All repair work resulting from the dismantling of the temporary water system shall be the responsibility of the Contractor.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.2 B

B. TEMPORARY WATER SYSTEM – PROJECTS IN EXISTING FACILITIES:

1. When approved by the Commissioner, use of existing water system will be permitted for temporary water service during construction, as long as the system is cleaned and maintained in a condition acceptable to the Commissioner. At Substantial Completion, the Contractor shall restore the existing water system to conditions existing before initial use.
2. The Contractor shall be responsible for all repairs to the existing water system permitted to be used for temporary water service during construction. The Contractor shall be responsible to maintain the existing system in a clean condition on a daily basis, acceptable to the Commissioner.
3. The Contractor will be responsible for payment of water charges as directed by the Commissioner. Billing will be in accordance with the Department of Environmental Protection schedule of charges for Building Purposes.

C. WASH FACILITIES: The Contractor shall install wash facilities supplied with potable water at convenient locations for personnel involved in handling materials that require wash-up for a healthy and sanitary condition.

1. Dispose of drainage properly.
2. Supply cleaning compounds appropriate for each condition.
3. Include safety showers, eyewash fountains and similar facilities for the convenience, safety and sanitation of personnel.

D. DRINKING WATER FACILITIES: The Contractor shall provide drinking water fountains or containerized tap-dispenser bottled-drinking water units, complete with paper cup supplies. Where power is accessible, provide electric water coolers to maintain dispensed water temperature at 45 to 55 deg. F (7 to 13 deg. C).

3.3 TEMPORARY SANITARY FACILITIES:

- A. The Contractor shall provide toilets, wash facilities and drinking water fixtures in compliance with regulations and health codes for type, number, location, operation and maintenance of fixtures and facilities. Provide toilet tissue, paper towels, paper cups and similar disposable materials as appropriate for each facility, and provide covered waste containers for used materials.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.3 B

B. SELF-CONTAINED TOILET UNITS:

1. The Contractor shall provide temporary single-occupant toilet units of the chemical, aerated re-circulation, or combustion type for use by all construction personnel. Units shall be properly vented and fully enclosed with a glass-fiber-reinforced polyester shell or similar nonabsorbent material. Quantity of toilet units shall comply with the latest OSHA regulations.
2. Toilets: Install separate self-contained toilet units for male and female personnel. Shield toilets to ensure privacy.



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REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.3 C

C. EXISTING TOILETS:

1. **TOILET FACILITIES:** When approved by the Commissioner, the Contractor shall arrange for the use of existing toilet facilities by all personnel during the execution of the work. The Contractor shall be responsible to clean and maintain facilities in a condition acceptable to the Resident Engineer and, at completion of construction, to restore facilities to their condition at the time of initial use.
2. **MAINTENANCE** - The Contractor shall maintain the temporary toilet facilities in a clean and sanitary manner and make all necessary repairs.
3. **NUISANCES** - The Contractor shall not cause any sanitary nuisance to be committed by its employees or the employees of its subcontractors in or about the work, and shall enforce all sanitary regulations of the City and State Health Authorities.

3.4 TEMPORARY ELECTRIC POWER, TEMPORARY LIGHTING SYSTEM, AND SITE SECURITY LIGHTING:

- A. **SCOPE:** This Section sets forth the General Conditions and procedures relating to Temporary Electric Power, Temporary Lighting System and Site Security Lighting during the construction period.
- B. **TEMPORARY ELECTRIC POWER:**
The Contractor shall provide and maintain a Temporary Electric Power service and distribution system of sufficient size, capacity and power characteristics required for construction operations for all required work by the Contractor and its subcontractors, including but not limited to power for the Temporary Lighting System, Site Security Lighting, construction equipment, hoists, temporary elevators and all field offices. Temporary Electric Power shall be provided as follows:

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.4 B (1)

1. CONNECTION TO UTILITY LINES:

- a. Temporary Electric Power Service for use during construction shall be provided as follows: The Contractor shall make all necessary arrangements with the Public Utility Company and pay all charges for the Temporary Electric Power system. The Contractor shall include in its total Contract Price any charges for Temporary Electric Power, including charges that may be made by the Public Utility Company for extending its electrical facilities, and for making final connections. The Contractor shall make payment directly to the Public Utility Company.
- b. **APPLICATIONS FOR METER:** The Contractor shall make application to the Public Utility Company and sign all documents necessary for, and pay all charges incidental to, the installation of a watt hour meter or meters for Temporary Electric Power. The Contractor shall pay to the Public Utility Company, all bills for Temporary Electric energy used throughout the work, as they become due.
- c. **SERVICE AND METERING EQUIPMENT** - The Contractor shall furnish and install, at a suitable location on the site, approved service and metering equipment for the Temporary Electric Power System, ready for the installation of the Public Utility Company's metering devices. The temporary service mains to and from the metering location shall be not less than 100 Amperes, 3-phase, 4-wire and shall be of sufficient capacity to take care of all demands for all construction operations and shall meet all requirements of the NYCEC.



REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.4 B (2)

2. CONNECTION TO EXISTING ELECTRICAL POWER SERVICE:
- a. When approved by the Commissioner, electrical power service for the Temporary Lighting System and for the operation of small tools and equipment less than ¼ horsepower may be taken from the existing electric distribution system if the existing system is of adequate capacity for the temporary power load. The Contractor shall cooperate and coordinate with the facility custodian, so as not to interfere with the normal operation of the facility.
 - b. There will be no charge to the Contractor for the electrical energy consumed.
 - c. The Contractor shall provide, maintain and pay all costs for separate temporary electric power for any temporary power for equipment larger than 1/4 horsepower. When directed by the Commissioner, the Contractor shall remove its own temporary power system.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.4 B (3)

3. ELECTRICAL GENERATOR POWER SERVICE:
- a. When connection to Utility Lines or existing facility electric service is not available or is not adequate to supply the electric power need for construction operations, the Contractor shall provide self-contained generators to provide power beyond that available.
 - b. Pay for all energy consumed in the progress of the Work, exclusive of that available from the existing facility or Utility Company.
 - c. Provide for control of noise from the generators.
 - d. Comply with the Ultra Low Sulfur Fuel in Non-Road Vehicles requirements as set forth in Article 5.4 of the Contract.
- C. USE OF COMPLETED PORTIONS OF THE ELECTRICAL WORK:
- 1. USE OF MAIN DISTRIBUTION PANEL: As soon as the permanent electric service feeders and equipment, metering equipment and main distribution panel are installed and ready for operation, the Contractor shall have the temporary lighting and power system changed over from the temporary service points to the main distribution panel.
 - 2. COST OF CHANGE OVER - The Contractor shall be responsible for all costs due to this change over of service and it shall also make application to the Public Utility Company for a watt hour meter to be set on the permanent meter equipment.
 - 3. The requirements for temporary electric power service specified herein shall be adhered to after change over of service until final acceptance of the project.
 - 4. NO EXTRA COST - The operation of the service and switchboard equipment shall be under the supervision of the Contractor, but this shall in no way be interpreted to mean the acceptance of such part of the installation or relieve the Contractor from its responsibility for the complete work or any part thereof. There shall be no additional charge for supervision by the Contractor.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.4 D

- D. TEMPORARY LIGHTING SYSTEM:
- 1. The Contractor shall provide adequate service for the temporary lighting system, or a minimum of 100 Amperes, 3-phase, 4-wire service for the temporary lighting system, whichever is



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- greater, and make all necessary arrangements with the Public Utility Company and pay all charges by them for the Temporary Lighting System
2. The Contractor shall furnish and connect to the metered service point, a Temporary Lighting System to illuminate the entire area where work is being performed and points adjacent to the work, with separately fused circuits for stairways and bridges. Control switches for stairway circuits shall be located near entrance on ground floor.
 3. ITEMS: The Temporary Lighting System provided by the Contractor shall consist of wiring, fixtures, left-hand double sockets, (one (1) double socket for every 400 square feet, with one (1) lamp and one (1) three-prong outlet) lamps, fuses, locked type guards, pigtails and any other incidental material. Additional details may be outlined in the detailed Specifications for the Electrical Work. Changes may be made, provided the full equivalent of those requirements is maintained.
 4. The Temporary Lighting System shall be progressively installed as required for the advancement of the work under the Contract.
 5. RELOCATION: The cost for the relocation or extension of the original Temporary Lighting System, required by the Contractor or its subcontractors, that is not required due to the normal advancement of the work, as determined by the Resident Engineer, shall be borne by the Contractor.
 6. PIGTAILS: shall be furnished with left-hand sockets with locked type guards and 40 feet of rubber covered cable. The Contractor shall furnish and distribute a minimum of three (3) complete pigtails to each subcontractor. See the detailed Electrical Specifications for possible additional pigtails required.
 7. LAMPS: The Contractor shall furnish and install one (1) complete set of lamps, including those for the trailers. Broken and burned out lamps in the temporary lighting system, DDC field office and construction trailers, shall be replaced by the Contractor. All lamps shall be compact fluorescent.
 8. CIRCUIT PROTECTION: The Contractor shall furnish and install GFI protection for the Temporary Lighting and Site Security Lighting Systems.
 9. MAINTENANCE OF TEMPORARY LIGHTING SYSTEM:
 - a. The Contractor shall maintain the Temporary Lighting System in good working order during the scheduled hours established.
 - b. The Contractor shall include in its total Contract Price all costs in connection with the Temporary Lighting System, including all costs for installation, maintenance and electric power.
 10. REMOVAL OF TEMPORARY LIGHTING SYSTEM: The temporary lighting system shall be removed by the Contractor when authorized by the Commissioner.
 11. HAND TOOLS: The temporary lighting system shall not be used for power purposes, except that light hand tools not larger than 1/4 horsepower may be operated from such system by the Contractor and its subcontractors.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.4 E

E. SITE SECURITY LIGHTING (FOR NEW CONSTRUCTION ONLY):

1. The Contractor shall furnish, install and maintain a system of site security lighting, as herein specified, to illuminate the construction site of the project, and it shall be connected to and energized from the Temporary Lighting System. All costs in connection with site security lighting shall be deemed included in the total Contract Price.
2. It is essential that the site security lighting system be completely installed and operating, at the earliest possible date. The Contractor shall direct its subcontractors to cooperate, coordinate and exert every effort to accomplish an early complete installation of the site security lighting system. After the system is installed and in operation, if a part of the system interferes with the work of any trade, the Contractor shall be completely responsible for the expense of removing,



relocating and replacing all equipment necessary to reinstate the system to proper operating conditions.

3. The system shall consist of flood lighting by pole mounted guarded sealed-beam units. Floodlight units shall be mounted 16 feet above grade. Floodlights shall be spaced around the perimeter of the site to produce an illumination level of no less than one (1) foot candle around the perimeter of the site, as well as in any potentially hazardous area or any other area within the site that might be deemed by the Resident Engineer to require security illumination. The system shall be installed in a manner acceptable to the Resident Engineer. The first lighting unit in each circuit shall be provided with a photoelectric cell for automatic control. The photoelectric cell shall be installed as per manufacturer's recommendations.
4. All necessary poles shall be furnished and installed by the Contractor.
5. The site security lighting shall be kept illuminated at all times during the hours of darkness. The Contractor shall, at its own expense, shall keep the system in operation, and shall furnish and install all material necessary to replace all damaged or burned out parts.
6. The Contractor shall be on telephone call alert for maintaining the system during the operating period stated above.
7. All materials and equipment furnished under this section shall remain the property of the Contractor and shall be removed and disposed of by the Contractor when authorized in writing by the Resident Engineer.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.5

3.5 TEMPORARY HEAT:

A. GENERAL:

1. Definition: The provision of Temporary Heat shall mean the provision of heat in order to permit construction to be performed in accordance with the Progress Schedule during all seasons of the year and to protect the work from the harmful effects of low temperature. In the event the building, or any portion thereof, is occupied during construction, the provision of Temporary Heat shall include the provision of heat to permit normal operations in such occupied areas.
 - a. The provision of Temporary Heat shall be in accordance with the temperature requirements set forth in Sub-Section 3.5 C herein.
 - b. The provision of Temporary Heat shall include the provision of: 1) all fuel necessary and required, 2) all equipment necessary and required, and 3) all operating labor necessary and required. Operating labor shall mean that minimum force required for the safe day to day operation of the system for the provision of Temporary Heat and shall include, without limitation, heating maintenance labor and/or Fire Watch as required by NYC Fire Department regulations. Operating labor may be required seven (7) days per week and during other than normal working hours, for the period of time required by seasonal weather conditions.
 - c. In the event the building, or any portion thereof, is occupied and the Project involves the replacement, modification and/or shut down of the permanent heating system, or any key component thereof; and such system is a combined system which furnishes domestic hot water for the building occupants, the provision of Temporary Heat shall include the provision of domestic hot water at the same temperature as the system which is being replaced. Domestic hot water shall be provided in accordance with the phasing requirements set forth in the Contract Documents.
2. Responsibility: The Contractor's responsibility for the provision of Temporary Heat, including all expenses in connection therewith, shall be as set forth below:
 - a. Projects Involving Enclosure of the Building:



- 1) Prior to Enclosure - Until the Commissioner determines that the building has been enclosed, as set forth in Sub-Section 3.5 B; the Contractor shall be responsible for the provision of Temporary Heat.
 - 2) Post Enclosure - Once the Commissioner determines that the building, or any portion thereof, has been enclosed, as set forth in Sub-Section 3.5 B, the Contractor shall be responsible for the provision of Temporary Heat by one or more of the following means: 1) by an existing heating system (if any), 2) by a permanent heating system which is being installed as part of the Project, or 3) by a temporary heating system(s).
 - 3) The Contractor shall, within two (2) weeks of the kick-off meeting, submit to DDC for review its proposed plan to provide Temporary Heat. Such plan is subject to approval by the Resident Engineer. The Contractor shall provide Temporary Heat in accordance with the approved plan until written acceptance by the Commissioner of the work of all Contractors, including punch list work, unless directed otherwise in writing by the Commissioner. The responsibility of the Contractor provided for herein is subject to the exception set forth in Sub-Section 3.5 A.2 (b) herein.
- b. Projects not involving Enclosure of the Building:
- 1) If the Project involves the installation of a new permanent heating system if one did not exist previously, or the replacement, modification and/or shut down of the existing permanent heating system, or any key component thereof, the Contractor shall be responsible for the provision of Temporary Heat, except as otherwise provided in Sub-Section 3.5 H.3(b).2 herein.
 - 2) If the Project does not involve the installation of a new permanent heating system if one did not exist previously, or the replacement, modification and/or shut down of the existing permanent heating system, or any key component thereof; there is no Contractor responsibility of the provision of Temporary Heat, unless otherwise specified in the Contract Documents. However, if the Commissioner, pursuant to Sub-Section 3.5 H.3 (b).1 herein, determines that the provision of Temporary Heat is necessary due to special and/or unforeseen circumstances, the Contractor shall be responsible for the provision of Temporary Heat and shall be paid for the same in accordance with Sub-Section 3.5 H.3 (b).1 herein.
- B. ENCLOSURE OF STRUCTURES:
1. Notification: The Contractor shall notify all its subcontractors and the Resident Engineer at least 30 days prior to the anticipated date that the building(s) will be enclosed.
 2. Commissioner Determination: The Commissioner shall determine whether the building, or any portion thereof, has been enclosed. As indicated in Sub-Section 3.5 A.2 above, once the building has been enclosed, the Contractor shall be responsible for the provision of Temporary Heat. The Commissioner's determination with respect to building enclosure shall be based upon all relevant facts and circumstances, including without limitation, 1) whether the building meets the criteria set forth in Paragraph 3 below, and 2) whether the openings in the building, such as doorways and windows, have been sufficiently covered so as to provide reasonable heat retention and protection from the elements.
 3. Criteria for enclosure:
 - a. Roof Area:
 - 1) A building shall be considered to be roofed when the area to be roofed is covered by a permanent structure and all openings through the permanent structure are covered and protected by temporary covers as described in Paragraph (c) below.
 - 2) Intermediate floor structures of multi-floor buildings shall be considered to be roofed subject to the same requirements of the building roof.



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- 3) The final roofing system need not be in place for the building or structure to be determined to be enclosed; provided, however, all openings through the permanent structure covering the roof must be covered and protected by temporary covers, as described in Paragraph (c) below.
- b. Walls: For the walls to be determined to be enclosed permanent exterior wall elements or facing material must be in place and all openings must be covered and protected by temporary covers, as described in Paragraph (c) below.
- c. Temporary Covers: In order to be acceptable, temporary covers must be securely fixed to prevent the entrance of rain, snow and direct wind. The minimum material requirements for temporary covers are as follows: 1) minimum 10 mil. Plastic 2) minimum 12 ounce waterproof canvas tarpaulins, or 3) a minimum three-eighths (3/8) inch thickness exterior grade plywood.
- d. Temporary covers for openings shall be the responsibility of the Contractor and such work shall be deemed included in the Contract price.

C. TEMPERATURE REQUIREMENTS:

1. Unoccupied Buildings: The temperature requirement for the provision of Temporary Heat in unoccupied buildings shall be the GREATER of the following: 1) 50 degrees Fahrenheit, or 2) the temperature requirement for the particular type of work set forth in the Contract Documents.
2. Occupied Buildings: The temperature requirement for the provision of Temporary Heat in occupied buildings, or portions thereof, shall be the GREATER of the following: 68 degrees Fahrenheit or the temperature requirement for the particular type of work set forth in the Contract Documents.

D. DURATION:

1. The Contractor shall be required to provide Temporary Heat until the date on which it completes all required work at the site, including all punch list work, as certified in writing by the Resident Engineer, or earlier if so directed in writing by the Commissioner. The Contractor shall be responsible for the provision of Temporary Heat for the time specified herein, regardless of any delays in completion of the Project, including delays that result in the commencement of the provision of Temporary Heat during a season that is later than that which may have been originally anticipated. The Contractor shall include in its Total Contract Price all expenses in connection with the provision of Temporary Heat in accordance with the requirements specified herein.
2. The total Contract duration is set forth in consecutive calendar days in Schedule A of the Addendum. The Table set forth below indicates the number of full heating seasons that are deemed included in various contract durations, which are specified in consecutive calendar days (ccds). At a minimum, a full heating season shall extend from October 15th to April 15th.

Contract Duration	Full Heating Seasons Required
up to 360 ccds	1 full heating season
360 to 720 ccds	2 full heating seasons
more than 720 ccds	3 full heating seasons

E. METHOD OF TEMPORARY HEAT:

1. The method of temporary heat shall be in conformance with the New York City Fire Code and with all applicable laws, rules and regulations. Prior to implementation, such method shall be subject to the written approval of the Commissioner.
2. The method of temporary heat shall:
 - a. Not cause the deposition of dirt or smudges upon any finished work or cause any defacement or discoloration to the finished work.
 - b. Not be injurious or harmful to people or materials.



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- c. Portable fueled heating devices or equipment SHALL NOT BE ALLOWED for use as temporary heat other than construction-related curing or drying in conformance with the NYC Fire Code.
3. No open fires will be permitted.

F. TEMPORARY HEATING SYSTEM:

1. The temporary system for the provision of Temporary Heat provided by the Contractor following enclosure of the building shall be complete including, subject to provisions of paragraph E above, boilers pumps, radiators, space heaters, water and heating piping, insulation and controls. The temporary system for the provision of Temporary Heat shall be capable of maintaining the minimum temperature requirements set forth in Paragraph C above.

G. COORDINATION:

1. The Contractor, in the provision of Temporary Heat, shall coordinate its operations in order to insure sufficient and timely performance of all required work, including work performed by trade subcontractors. The Contractor shall supply and pay for all water required and used in the building for the operation of the heating system(s) for the purpose of Temporary Heat. The Contractor shall include all expenses in connection with the supply of water for Temporary Heat in its Total Contract Price. During the period in which Temporary Heat in an enclosed building is being furnished and maintained, the Contractor shall provide proper ventilating and drying, open and close the windows and other openings when necessary for the proper execution of the work and also when directed by DDC. The Contractor shall maintain all permanent or temporary enclosures at its own expense.

H. USE OF PERMANENT HEATING SYSTEMS:

1. Use of Permanent Heating System for Temporary Heat after Building Enclosure
 - a. The Contractor shall provide all labor and materials to promptly furnish and set all required equipment and convectors and/or radiators, piping, valves, fitting, etc., in ample time for their use for the provision of Temporary Heat after enclosure of the building.
 - b. New portions of the permanent heating system that are used for furnishing Temporary Heat shall be left in near perfect condition when delivered to the City for operation. Any repairs required, other than for ordinary wear and tear on the equipment, shall be made by the Contractor at his/her expense. The starting date for the warranty or guarantee period for such equipment shall be the date of Substantial Completion acceptance.
 - c. In the event that the Contractor does not advance the installation of the permanent heating system in sufficient time to permit its use for Temporary Heat as determined by DDC, the Contractor shall furnish and install a separate system for the provision of Temporary Heat as required to maintain the minimum temperature requirements set forth in Paragraph C above.
2. All equipment for the system for the provision of Temporary Heat shall be placed so as to comply with the requirements specified hereinbefore, and shall be connected, disconnected and suitably supported and located so as to permit construction work, including finish work such as wall plastering and painting, to proceed. The installation of the system for the provision of Temporary Heat by the Contractor, including the placing of ancillary system equipment, shall be coordinated with the operations of all trade subcontractors so as to insure sufficient and timely performance of the work. Once the permanent heating system is operating properly, the Contractor shall remove all portions of the system for Temporary Heat not part of the permanent heating system.
3. Temporary Heat Allowance for Special Conditions or and/or Unforeseen Circumstances.
 - a. The City may establish an allowance in the Contract for payment of costs and expenses in connection with the provision of Temporary Heat as set forth herein. If established, the City will include an amount for such allowance on the Bid Form, and the Contractor shall



include such allowance amount in its Total Contract Price. The Contractor shall only be entitled to payment from this allowance under the conditions and in accordance with the requirements set forth below. In the event this allowance or any portion thereof remains unexpended at the conclusion of the Contract, such allowance shall remain the sole property of the City. Should the amount of the allowance be insufficient to provide payment for the expenses specified below, the City will increase the amount of the allowance.

- b. The allowance set forth herein may be utilized only under the conditions set forth below.
 - 1. In the event the Project does not involve the installation of a new permanent heating system if one did not exist previously, or the replacement, modification and/or shut down of the existing permanent heating system, or any key component thereof, and the Commissioner determines that the provision of Temporary Heat is necessary due to special and/or unforeseen circumstances, the Contractor shall be responsible for the provision of Temporary Heat, as directed by the Commissioner. The City shall pay such Contractor for all costs for labor, material, and equipment necessary and required for the same. Payment shall be made in accordance with Article 26 of the Contract, except that the cost of fuel shall be as set forth in Paragraph (c) below.
 - 2. In the event the Commissioner determines that there is a need for maintenance of the permanent heating system by the Contractor after written acceptance by the Commissioner of the work, and that the need for such maintenance is not the fault of the Contractor, the Contractor shall provide the required maintenance of the permanent heating system for the period of time directed by the Commissioner. The City shall pay the Contractor for the cost of direct labor and fuel necessary and required in connection with such maintenance, excluding the cost of any foremen or other supervision. Payment shall be made in accordance with Article 26 of the Contract, except that the cost of fuel shall be as set forth in Paragraph (c) below.
- c. Payment for Fuel Costs - Payment from the allowance set forth herein for the cost of fuel necessary and required to operate the system for the provision of Temporary Heat or to maintain the permanent heating system under the conditions set forth in Paragraph b above shall be limited to the direct cost of such fuel. The Contractor shall not be entitled to any overhead and/or profit for such fuel costs. In order to receive payment for such fuel costs, the Contractor must present original invoices for the same. DDC reserves the right to furnish the required fuel.

I. RELATED ELECTRICAL WORK:

- 1. The Contractor shall be responsible for providing the items set forth below and shall include all expenses in connection with such items in its Total Contract Price. The Contractor shall provide such items promptly when required and shall in all respects coordinate its work with the work performed by trade subcontractors in order to facilitate the provision of Temporary Heat.
 - a. The Contractor shall provide all labor, materials, equipment and power necessary and required to furnish and maintain any temporary or permanent electrical connections to all equipment specified to be connected as part of the work of his Contract.
 - b. The Contractor shall supply and pay for all power necessary and required for the operation of the system for the provision of Temporary Heat and/or the permanent heating system used for Temporary Heat. Such power shall be provided by the Contractor for the duration the Contractor is required to provide Temporary Heat, as set forth in Sub-section 3.5 D herein.
- 2. In providing the items set forth in Paragraph 1 above, the Contractor is advised that labor may be required seven (7) days a week and/or during other than normal working hours for the period of time required by seasonal weather conditions.



J. RELATED PLUMBING WORK:

1. The Contractor shall be responsible for providing all labor, materials and equipment necessary and required to furnish and maintain all temporary or permanent connections to all equipment or plumbing outlets specified to be provided as part of the work of this Contract. The Contractor shall include all expenses in connection with such items of work in its Total Contract Price. The Contractor shall provide such items of work promptly when required and shall in all respects coordinate its work with the work performed by trade subcontractors in order to facilitate the provision of Temporary Heat.
2. In the event portions of the permanent plumbing equipment furnished by the Contractor as part of the work of this Contract are used for the provision of Temporary Heat either during construction or prior to acceptance by the City of the complete plumbing system, the Contractor shall be responsible to provide such plumbing equipment to the City in near perfect condition and shall make any repairs required, other than for ordinary wear and tear on the equipment, at his expense. The starting date for warranty and/or guarantee period for such plumbing equipment shall be the date of Substantial Completion acceptance by the City.
3. For Projects requiring the installation of new and/or modified gas service, as well as associated meter installations, the Contractor shall promptly perform all required filings and coordination with the Utility Companies in order to expedite the installation, testing, and approval of the gas service and associated meter(s).

3.6 STORM WATER CONTROL, DEWATERING FACILITIES AND DRAINS:

A. PUMPING:

1. Comply with requirements of authorities having jurisdiction. Maintain Project site, excavations, and construction free of water. Provide barriers in and around excavations and subgrade construction to prevent flooding by runoff of storm water from heavy rainfall.
2. Contractor shall furnish and install all necessary automatically operated pumps of adequate capacity with all required piping to run-off agencies, so as to maintain the excavation, cellar floor, pits and exterior depressions and excavations free from accumulated water during the entire period of construction and up to the date of final acceptance of work of the Contract.
3. All pumps shall be maintained at all times in proper working order.
4. Dispose of rainwater in a lawful manner that will not result in flooding Project or adjoining properties nor endanger permanent Work or temporary facilities.
5. Remove snow and ice as required to minimize accumulations.

3.7 TEMPORARY FIELD OFFICE FOR CONTRACTOR:

- A. The Contractor shall establish a temporary field office for its own use at the site during the period of construction, at which readily accessible copies of all Contract Documents shall be kept.
- B. The field office shall be located where it will not interfere with the progress of any part of the work or with visibility of traffic control devices.
- C. **CONTRACTOR'S REPRESENTATIVE:** In charge of the office there shall be a responsible and competent representative of the Contractor, duly authorized to receive orders and directions and to put them into effect.
- D. Arrangements shall be made by the Contractor whereby its representative may be readily accessible by telephone.
- E. All temporary structures shall be of substantial construction and neat appearance, and shall be painted a uniform gray unless otherwise directed by the Commissioner.
- F. **CONTRACTOR'S SIGN -** The Contractor shall post and keep posted, on the outside of its field office, office or exterior fence or wall at site of work, a legible sign giving full name of the company, address of the company and telephone number(s) of responsible representative(s) of the firm who can be reached in event of an emergency at any time.



- G. ADVERTISING PRIVILEGES - The City reserves the right to all advertising privileges. The Contractor shall not cause any signs of any kind to be displayed at the site unless specifically required herein or authorized by the Commissioner.

3.8 DDC FIELD OFFICE:

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.8 A

A. OFFICE SPACE IN EXISTING BUILDING:

1. The Resident Engineer will arrange for office space for sole use in the building where work is in progress. The Contractor shall provide and install a lockset for the door to secure the equipment in the room. The Contractor shall provide two (2) keys to the Resident Engineer. After completion of the project the Contractor shall replace the original lockset on the door and ensure its proper operation.
2. In addition to equipment specified in Sub-Section 3.8 D, the Contractor shall provide, for exclusive use of the DDC Field Office, the following:
 - a. Two (2) single pedestal desks, 42" x 32"; two (2) swivel chairs with arms and three (3) side chairs without arms to match desk. Two metal (2) lockers, single units, 15" x 18" x 78" overall including 6" legs. Lockers to have flat key locks with two (2) keys each, General Steel products or approved equal. Two (2) full ball bearing suspension four (4) drawer vertical legal filing cabinets with locks, approximately 52"H x 28 1/2"D x 18"W.
 - b. One (1) 9000 B.T.U air conditioner or as directed by Commissioner. Wiring for the air conditioner shall be minimum No. 12 AWG fed from individual circuits in the fuse box.
 - c. One (1) folding conference table, 96" x 30" and ten (10) folding chairs.
 - d. Two (2) metal wastebaskets.
 - e. One (1) fire extinguisher, one (1) quart vaporizing liquid type, brass, wall mounted by Pyrene No. C21 or approved equal.
 - f. One (1) Crystal Springs water cooler with bottled water, Model No. LP14058 or approved equal to be furnished for the duration of the project as required.
3. The Contractor shall provide one (1) telephone, where directed and shall pay all costs for telephone service for calls within the New York City limits for the duration of the project.
4. All furniture and equipment, except computer equipment specified in Sub-Section 3.8 D.3, shall remain the property of the Contractor.
5. Computer Workstation quantities shall be provided as specified in Sub-Section 3.8 B 3-a for DDC Managed Projects, or Sub-Section 3.8 B 3-b for CM Managed Projects.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.8 B

B. DDC FIELD OFFICE TRAILER:

1. GENERAL: The Contractor shall, for the time frame specified herein, provide and maintain at its own cost and expense a DDC Construction Field Office and all related items as specified herein [hereinafter collectively referred to as the "DDC Field Office"] for the exclusive use of the Resident Engineer. The DDC Field Office shall be located at the Project site and shall be solely dedicated to the Project. Provision of the DDC Field Office shall commence within THIRTY (30) days from Notice to proceed and shall continue through forty-five (45) days after Substantial Completion of the required construction at the Project site. The Contractor shall remove the DDC Field Office forty-five (45) days after Substantial Completion of the required construction, or as otherwise directed in writing by the Commissioner.
2. TRAILER: The Contractor shall provide at its own cost and expense a mobile office trailer for use as the DDC Field Office. The Contractor shall install and connect all utility services to the



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trailer within thirty (30) days from Notice to Proceed. The trailer shall have equipment in compliance with the minimum requirements hereinafter specified. Any permits and fees required for the installation and use of said trailer shall be borne by the Contractor. The trailer including furniture and equipment therein, except computer equipment specified in Sub-Section 3.8D.3 herein, shall remain the property of the Contractor.

3. Trailer shall be an office type trailer of the size specified herein, with exterior stairs at entrance. Trailer construction shall be minimum 2 x 4 wall construction fully insulated with paneled interior walls, pre-finished gypsum board ceilings and vinyl tile floors.

**REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.8.B.3a or
SUB-SECTION 3.8.B.3b.**

- a. DDC Managed Project Trailer: DDC Field Office Trailer Size, Layout and Computer Workstation:
 - 1) Overall length: 32 Feet
Overall width: 10 Feet
 - 2) Interior Layout:
Provide one (1) general office/conference room area and one (1) private office at one end of the trailer. Provide equipment and amenities as specified in Sub-Section 3.8.B herein.
 - 3) Computer Workstation: Provide one (1) complete computer workstation, as specified in Sub-Section 3.8.D herein, in the private office area as directed by the Resident Engineer.
- b. CM Managed Project Trailer: DDC Field Office Trailer Size, Layout and Computer Workstation:
 - 1) Overall length: 50 Feet
Overall width: 10 Feet
 - 2) Interior Layout:
Provide one (1) large general office/conference room in the center of the trailer and two (2) private offices, one (1) each at either end of the trailer. Provide equipment and amenities as specified in Sub-Section 3.8.B herein.
 - 3) Computer Workstation:
Provide three (3) complete computer workstations as specified in Sub-Section 3.8.D herein. Provide one (1) each complete computer workstation in each private office and one (1) complete computer workstation at the secretarial position as directed by the Resident Engineer.
4. The exterior of the trailer shall be lettered with black block lettering of the following heights with white borders:

CITY OF NEW YORK	2-1/2"
DEPARTMENT OF DESIGN AND CONSTRUCTION	3-3/4"
DIVISION OF PUBLIC BUILDINGS	3-1/2"
DDC FIELD OFFICE	2-1/2"

NOTE: In lieu of painting letters on trailer the Contractor may substitute a sign constructed of a good quality weatherproof material with the same type and size of lettering above.
5. All windows and doors shall have aluminum insect screens. Provide wire mesh protective guards at all windows.
6. The interior shall be divided by partitions into general and private office areas as specified herein. Provide a washroom located adjacent to the private office and a built-in wardrobe closet opposite the washroom. Provide a built-in desk in the private office(s) with fixed overhead shelf and clearance below for two (2) file cabinets.



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7. Provide a built-in drafting or reference table, located in the general office/conference room, at least 60 inches long by 36 inches wide with cabinet below and wall type plan rack at least 42 inches wide.
8. The washroom shall be equipped with a flush toilet, wash basin with two (2) faucets, medicine cabinet, complete with supplies and a toilet roll tissue holder. Plumbing and fixtures shall be approved house type, with each appliance trapped and vented and a single discharge connection. Five (5) gallon capacity automatic electric heater for domestic hot water shall be furnished.
9. HVAC: The trailer shall be equipped with central heating and cooling adequate to maintain a temperature of 72 degrees during the heating season and 75 degrees during the cooling season when the outside temperature is 5 degrees F. winter and 89 degrees F. summer.
10. Lighting shall be provided via ceiling mounted fluorescent lighting fixtures to a minimum level of 50 foot candles in the open and private office(s) along with sufficient lighting in the washroom. Broken and burned out lamps shall be replaced by the Contractor. A minimum of four (4) duplex convenience outlets shall be provided in the open office and two (2) each in the private office(s). These outlets shall be in addition to special outlet requirements for computer stations, copiers, HVAC unit, etc.
11. Electrical service switch and panel shall be adequately sized for the entire trailer load. Provide dedicated circuits for HVAC units, hot water heater, copiers and other equipment as required. All wiring and installation shall conform to the New York City Electrical Code.
12. The following movable equipment shall be furnished:
 - a. Two (2) single pedestal desks, 42" x 32"; two (2) swivel chairs with arms and three (3) side chairs without arms to match desk. Two (2) full ball bearing suspension four (4) drawer vertical legal filing cabinets with locks and two (2) full ball bearing two (2) drawer vertical legal filing cabinets in each private office located below built-in desk.
 - b. One (1) folding conference table, 96" x 30" and ten (10) folding chairs.
 - c. Three (3) metal wastebaskets.
 - d. One (1) fire extinguisher one (1) quart vaporizing liquid type, brass, wall mounted by Pyrene No. C21 or approved equal.
 - e. One (1) Crystal Springs water cooler with bottled water, Model No. LP14058 or approved equal to be furnished for the duration of the Contract as required.
13. TRAILER TEMPORARY SERVICE: Plumbing and electrical work required for the trailer will be furnished and maintained as below.
 - a. PLUMBING WORK: The Contractor shall provide temporary water and drainage service connections to the DDC Field Office trailer for a complete installation. Provide all necessary soil, waste, vent and drainage piping.

Contractor to frost-proof all water pipes to prevent freezing.

 - 1) REPAIRS, MAINTENANCE: The Contractor shall provide repairs for the duration of the project until the trailer is removed from the site.
 - 2) DISPOSITION OF PLUMBING WORK: At the expiration of the time limit set forth in Sub-Section 3.8 B 1 herein, the temporary water and drainage connections and piping to the DDC Field Office trailer shall be removed by the Contractor and shall be plugged at the mains. All piping shall become the property of the Contractor for Plumbing Work and shall be removed from the site, all as directed. All repair work due to these removals shall be the responsibility of the Contractor.
 - b. ELECTRICAL WORK:
 - 1) The Contractor shall furnish, install and maintain a temporary electric feeder to the DDC Field Office trailer immediately after it is placed at the job site.
 - 2) The temporary electrical feeder and service switch/fuse shall be adequately sized based on the trailer load and installed per the New York City Electrical Code and complying with utility requirements.



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- 3) Make all arrangements and pay all costs to provide electric service.
- 4) The Contractor shall pay all costs for current consumed and for maintenance of the system in operating condition, including the furnishing of the necessary bulb replacements lamps, etc., for the duration of the project and for a period of forty-five (45) days after the date of Substantial Completion.
- 5) Disposition of Electric Work: At the expiration of the time limit set forth, the temporary feeder, safety switch, etc., shall be removed and disposed of as directed.
- 6) All repair work due to these removals shall be the responsibility of the Contractor.

c. MAINTENANCE

- 1) The Contractor shall provide and pay all costs for regular weekly janitor service and furnish toilet paper, sanitary seat covers, cloth towels and soap and maintain the DDC Field Office in first-class condition, including all repairs, until the trailer is removed from the site.
- 2) Supplies: The Contractor shall be responsible for providing (a) all office supplies, including without limitation, pens, pencils, stationery, filtered drinking water and sanitary supplies, and (b) all supplies in connection with required computers and printers, including without limitation, an adequate supply of blank CD's/DVD's, storage boxes for blank CDs/DVDs, and paper and toner cartridges for the printer.
- 3) Risk of Loss: The entire risk of loss with respect to the DDC Field Office and equipment shall remain solely and completely with the Contractor. The Contractor shall be responsible for the cost of any insurance coverage determined by the Contractor to be necessary for the Field Office.
- 4) At forty-five (45) days after the date of Substantial Completion, or sooner as directed by the Commissioner, the Contractors shall have all services disconnected and capped to the satisfaction of the Commissioner. All repair work due to these removals shall be the responsibility of the Contractor.

d. TELEPHONE SERVICE: The Contractor shall provide and pay all costs for the following telephone services for the DDC Field Office trailer:

- 1) Separate telephone lines for one (1) desk phone in each private office.
- 2) One (1) wall phone (with six (6) foot extension cord) at plan table.
- 3) Separate telephone lines for the fax machine and internet access in each private office. Telephone service shall include voice mail.
- 4) A remote bell located on outside of trailer
- 5) The telephone service shall continue until the trailer is removed from the site.

e. PERMITS: The Contractor shall make the necessary arrangements and obtain all permits and pay all fees required for this work.

- C. RENTED SPACE: The Contractor has the option of providing, at its cost and expense, rented office or store space in lieu of trailer. Said space shall be in the immediate area of the Project and have adequate plumbing, heating and electrical facilities. Space chosen by the Contractor for the DDC Field Office must be approved by the Commissioner before the area is rented. All insurance, maintenance and equipment, including computer workstations specified in Sub-Section 3.8 D in quantities required as specified in Sub-Section 3.8 B 3 for the DDC Field Office trailer, shall also apply to rented spaces.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.8 D

D. ADDITIONAL EQUIPMENT FOR THE DDC FIELD OFFICE:

1. The Contractor shall provide a high volume copy machine (50 copies per minute) for paper sizes 8½ x 11, 8½ x 14 & 11 x 17. Copier shall remain at job site until the DDC Field office trailer is removed from the site.



2. The Contractor shall furnish a fax machine and a telephone answering machine at commencement of the project for the exclusive use of the DDC Field Office. All materials shall be new, sealed in manufacturer's original packaging and shall have manufacturers' warranties. All items shall remain the property of the City of New York at the completion of the project.
3. **COMPUTER WORKSTATION:** The Contractor shall provide one complete computer workstation, in quantities specified in Sub-Section 3.8.B.3, as specified herein:
 - a. **Hardware/Software Specification:**
 - 1) **Computer Equipment** - Computers shall be provided for all contracts that have a Total Consecutive Calendar Days for construction duration as set forth in Schedule "A" of 180 CCD's or greater. Contracts of lesser duration shall not require computers.
 - 2) Computers furnished by the Contractor for use by City Personnel, for the duration of the contract, shall be in accordance with Specific Requirements, contained herein, shall remain the property of the City of New York at the completion of the project and shall meet the following minimum requirements:
 - 3) **Personal Computer(s) – Each Workstation Configuration.**
 - a) **Make and Model:** Dell; HP; Gateway; Acer; or, an approved equivalent. (Note: an approved equivalent requires written approval of the Assistant Commissioner of ITS.)
 - b) **Processor:** i5-2400 (6MB Cache, 3.1GHz) or faster computer - Single Processor.
 - c) **System RAM:** Minimum of 4GB (Gigabytes) Dual Channel DDR3 SDRAM at 1333MHz – 2 DIMMSs
 - d) **Hard Disk Drive(s):** 500 GB (Gigabytes) Serial ATA (7200RPM) w/DataBurst Cache, or larger.
 - e) **CD-RW:** Internal CD-RW, 48x Speed or faster.
 - f) **16xDVD+/-RW** DVD Burner (with double layer write capability) 16x Speed or faster
 - g) **I/O Ports:** Must have at least one (1) Serial Port, one (1) Parallel Port, and three (3) USB Ports.
 - h) **Video Display Card:** HD Graphics (VGA, HDMI) with a minimum of 64 MB of RAM.
 - i) **Monitor:** 22" W, 23.0 Inch VIS, Widescreen, VGA/DVI LCD Monitor.
 - j) **Available Exp. Slots:** System as configured above shall have at least two (2) full size PCI Slots available.
 - k) **Network Interface:** Integrated 10/100/1000 Ethernet card.
 - l) **Other Peripherals:** Optical scroll Mouse, 101 Key Keyboard, Mouse Pad and all necessary cables.
 - m) **Software Requirement:** Microsoft Windows 7 Professional SP1, 32 bit; Microsoft Office Professional 2010 or 2013; Microsoft Project 2010; Adobe Acrobat reader; Anti-Virus software package with 2 year updates subscription; and, either Auto Cad LT or Microsoft



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Visio Standard Edition, as directed by the Resident Engineer.

- 4) DDC Field Office Specs: DDC Field Offices requiring computers shall be provided with the following:

- a) One (1) broad-band internet service account. Wideband Internet connectivity at a minimum throughput of 15 Mbps download and 5 Mbps upload is required at each field office location with 1-5 staffers. For larger field offices see table below for minimum required upload speeds. Telephone service should be bundled together with Internet connectivity. Because of throughput requirements Verizon FIOS is the preferred connectivity provider where available.

Office Personnel #	Upload Speeds (Minimum)
1 – 5	5 Mbps
6 – 10	10 Mbps
11 – 15	15 Mbps
16 – 20 ...	20 Mbps

This account will be active for the life of the project. The e-mail name for the account shall be the DDC Field Office/project Id (e.g. FLD K HWK666
McGuinness@earthlink.com).

- b) One (1) 600 DPI HP Laser Jet Printer (twelve (12) pages per minute or faster) with one (1) Extra Paper (Legal Size)
- c) All necessary cabling for equipment specified herein.
- d) Storage Boxes for Blank CD's
- e) Printer Table
- f) UPS/Surge Suppressor combo
- 5) All computers required for use in the Engineer's Field Office shall be delivered, installed, and setup in the Field Office by the Contractor.
- 6) All Computer Hardware shall come with a three (3) year warranty for on-site repair or replacement. Additionally, and notwithstanding any terms of the warranty to the contrary, the Contractor is responsible for rectifying all computer problems or equipment failures within one (1) business day.
- 7) An adequate supply of blank CDs/DVDs, and paper and toner cartridges for the printer shall be provided by the Contractor, and shall be replenished by the Contractor as required by the Resident Engineer.
- 8) It is the Contractor's responsibility to ensure that electrical service and phone connections are also available at all times; that is, the Field Office Computer(s) is to be powered and turned on twenty-four (24) hours each day.
- 9) Broadband connectivity is preferred at each field office location. Please take into consideration that an extra phone line dedicated to the modem must be ordered as part of the contract unless Internet broadband connectivity, via Cable or DSL, is available at the planned field office location. Any questions regarding this policy should be directed to the Assistant Commissioner of Information Technology Services at 718-391-1761.
- 10) Ownership: The equipment specified above shall, unless otherwise directed by the Commissioner, be the sole property of the City of New York upon delivery to the DDC Field Office. The Contractor shall prepare and maintain an accurate inventory of all equipment which it purchases for the DDC Field Office. Such inventory shall be provided to the City of New York. Upon completion of the



required services, as directed by the Commissioner, the Contractor shall turn such equipment over to the City of New York.

E. HEAD PROTECTION (HARD HATS):

1. The Contractor shall provide a minimum of 10 standard protective helmets for the exclusive use of Department of Design and Construction personnel and their visitors. Helmets shall be turned over to the Resident Engineer and kept in the DDC Field Office.
2. Upon completion of the project, the helmets shall become the property of the Contractor.

3.9 MATERIAL SHEDS:

- A. Material sheds used by the Contractor for the storage of its materials shall be kept at locations which will not interfere at any time with the progress of any part of the work or with visibility of traffic control devices.
- B. Store combustible materials apart from the facility.

3.10 TEMPORARY ENCLOSURES:

- A. Provide temporary enclosures for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities. Provide temporary weather tight enclosure for building exterior.
- B. Where heating or cooling is needed and permanent enclosure is not complete, insulate temporary enclosures.

3.11 TEMPORARY PARTITIONS:

- A. Provide floor-to-ceiling dustproof partitions to limit dust and dirt migration and to separate occupied tenant areas from fumes and noise.
 1. Construct dustproof partitions with gypsum wallboard with joints taped on occupied side, and fire-retardant plywood on construction operations side.
 2. Construct dustproof partitions with 2 layers of 3-mil (0.07-mm) polyethylene sheet on each side. Cover floor with 2 layers of 3-mil (0.07-mm) polyethylene sheet, extending sheets 18 inches (460 mm) up the sidewalls. Overlap and tape full length of joints. Cover floor with fire-retardant plywood.
 - a. Construct vestibule and airlock at each entrance through temporary partition with not less than 48 inches (1219 mm) between doors. Maintain water-dampened foot mats in vestibule.
 3. Insulate partitions to provide noise protection to occupied areas.
 4. Seal joints and perimeter. Equip partitions with dustproof doors and security locks.
 5. Protect air-handling equipment.
 6. Weather strip openings.
 7. Provide walk-off mats at each entrance through temporary partition.

3.12 TEMPORARY FIRE PROTECTION:

- A. Install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 241.
- B. Prohibit smoking in all areas.
- C. Supervise welding operations, combustion-type temporary heating units, and similar sources of fire ignition according to requirements of authorities having jurisdiction.



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- D. Develop and supervise an overall fire-prevention and -protection program for personnel at Project site. Review needs with local fire department and establish procedures to be followed. Instruct personnel in methods and procedures. Post warnings and information.
- E. Provide temporary standpipes and hoses for fire protection. Hang hoses with a warning sign stating that hoses are for fire-protection purposes only and are not to be removed. Match hose size with outlet size and equip with suitable nozzles.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.13

3.13 WORK FENCE ENCLOSURE:

- A. The Contractor shall furnish, erect and maintain a wood construction or chain-link fence to the extent shown on the drawings or required by the work enclosing the entire project on all sides. All materials used shall be new. Any permit required for the installation and use of said fence and costs shall be borne by the Contractor.
- B. WOOD FENCE shall be 7'-0" high with framing construction of yellow pine, using 4" x 4" approved preservative-treated posts on not more than 6'-0" centers, with three (3) rails of at least 2" x 4" size to which shall be secured minimum 1/2 inch thick exterior grade plywood. Posts shall be firmly fixed in the ground at least 30" and thoroughly braced. Top edge of fence shall be trimmed with a rabbeted edge mould. Provide on the street traffic sides of fence, observation openings as directed.
 - 1. GATES - Provide an adequate number of double gates, complete with hardware, located as approved by the Resident Engineer. Double gates shall have a total clear opening of 14'-0" with two (2) 7'-0" hinged swinging sections. Hanging posts shall be 6" x 6" and shall extend high enough to receive and be provided with tension or sag rods for the swinging sections.
 - 2. PAINTING - The fence and gates shall be entirely painted on the street and public sides with one (1) coat of exterior primer and one (1) top coat of exterior grade acrylic-latex emulsion paint. Black stenciled signs reading "POST NO BILLS" shall be painted on fence with three (3) inch high letters on 25 foot spacing for the entire length of fence on street traffic sides. Signs shall be stenciled five (5) feet above the sidewalk.
- C. CHAIN-LINK FENCING shall be minimum 2-inch thick, galvanized steel, chain-link fabric fencing; 8 feet high with galvanized steel pipe posts; minimum 2-3/8-inch OD line posts and 2-7/8-inch OD corner and pull posts, with 1-5/8-inch OD top and bottom rails. Fence shall be accurately aligned and plumb, adequately braced and complete with gates, locks and hardware as required. Under no condition shall fencing be attached or anchored to existing construction or trees.
- D.
 - 1. It shall be the obligation of the Contractor to remove all posters, advertising signs, and markings, etc., immediately.
 - 2. Should the fencing be required to be relocated during the course of the Contract, it shall be done by the Contractor at no additional cost to the City.
 - 3. Where sidewalks are used for "drive over" purposes for Contractor vehicles, a suitable wood mat or pad shall be provided for protection of sidewalks and curbs.
 - 4. Where required, make provision for fire hydrants, lampposts, etc.
 - 5. REMOVAL - When directed by the Resident Engineer, the fence shall be removed.

3.14 RODENT AND INSECT CONTROL:

- A. DESCRIPTION: The Contractor shall provide all labor, materials, plant and equipment, and incidentals required to survey and monitor rodent activity and to control any infestation or outbreak of rodents, rats, mice, water beetles, roaches and fleas within the project area. Special attention should be paid to the following conditions or areas:



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- 1 Wet areas within the project area, including all temporary structures.
 - 2 All exterior and interior temporary toilet structures within the project area.
 - 3 All Field Offices and shanties within the project area of all subcontractors and DDC.
 - 4 Wherever there is evidence of food waste and/or discarded food or drink containers, in quantity, that would cause breeding of rodents or the insects herein specified.
 - 5 Any other portion of the premises requiring such special attention.
- B. MATERIALS:
- 1 All materials shall be approved by the New York State Department of Environmental Conservation and comply with the New York City Health Code, OSHA and the laws, ordinances and regulations of State and Federal agencies pertaining to such chemical and/or materials.
- C. PERSONNEL:
- 1 All pest control personnel must be supervised by an exterminator licensed in categories 7A and 8.
- D. METHODS:
1. Application and dosage of all materials shall be done in strict compliance with the manufacturer's recommendations.
 2. Any unsanitary conditions, such as uncollected garbage or debris, resulting from all Contractor's activities, which will provide food and shelter to the resident rodent population shall be corrected by the Contractor immediately after notification of such condition by the Resident Engineer.
- E. RODENT CONTROL WORK:
- 1 In wetlands, woodlands and areas adjacent to a stream, special precautions must be taken to protect water quality and to ensure the safety of other wildlife. To prevent poisoned bait from entering streams, no poisoned bait shall be used in areas within seventy-five (75) feet of all stream banks. Live traps must be used in these seventy-five (75) foot buffer zone areas and within wetland and woodland areas.
 - 2 In areas outside the seventy-five (75) foot zone of protection adjacent to streams, and in areas outside wetlands and woodlands, tamper proof bait stations with poisoned bait shall be placed during the period of construction and any consumed or decomposed bait shall be replenished as directed.
 - 3 At least one month prior to initiation of the construction work, and periodically thereafter, live traps and/or rodenticide bait in tamper proof bait stations, as directed above, shall be placed at locations that are inaccessible to pets, human beings, children and other non-target species, particularly wildlife (for example-birds) in the project area.
 - 4 The Contractor shall be responsible for collecting and disposing of all trapped and poisoned rodents found in live traps and tamper proof bait stations. The Contractor shall also be responsible for posting and maintaining signs announcing the baiting of each particular location.
The Contractor shall be responsible for the immediate collection and disposal of any visible rodent remains found on streets or sidewalks within the project area.
 - 5 It is anticipated that public complaints will be addressed to the Commissioner. The Contractor, where directed by the Commissioner, shall take appropriate actions, like baiting, trapping, proofing, etc., to remedy the source of complaint within the next six (6) hours of normal working time which is defined herein for the purposes of this section as 7 A.M. to 6 P.M. on Mondays through Saturdays.
 - 6 Emergency service during the regular workday hours (Monday through Friday) shall be rendered within 24 hours, if requested by the Commissioner, at no additional cost to the City.



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F. EDUCATION & NOTICES:

- 1 The Contractor shall post notices on all Construction Bulletin Boards advising workers, employees, and residents to call the Engineer's Field Office to report any infestation or outbreak of rodents, rats, mice, water beetles, roaches and fleas within the project area. The Contractor shall provide and distribute literature pertaining to IPM techniques of rodent control to affected businesses and superintendents of nearby residential buildings to ensure their participation in maintaining their establishments free of unsanitary conditions, harborage removal and rodent proofing.
- 2 Prior to application of any chemicals, the Contractor shall furnish to the Commissioner copies or sample labels for each pesticide, antidote information, and Material Data Safety Sheets (MSDS) for each chemical used.

G. RECORDS

1. The Contractor shall keep a record of all rodent and waterbug infestation surveys conducted by him/her and make available, upon request, to the Commissioner. The findings of each survey shall include, but not be limited to, recommended Integrated Pest Management (IPM) techniques, like baiting, trapping, proofing, etc., proposed for rodent and waterbug pest control.
2. The Contractor shall maintain records of all locations baited along with the type and quantity of rodenticide and insecticide bait used.

3.15 PLANT PEST CONTROL REQUIREMENTS and TREE PROTECTION REQUIREMENTS:

- A. Plant Pest Control Requirements: The Contractor and its subcontractors, including the Certified Arborist described below, shall comply with all Federal and New York State laws and regulations concerning Asian Longhorned Beetle (ALB) management, including protocols for ALB eradication and containment promulgated by the New York State Department of Agriculture and Markets (NYSDAM). The Contractor is referred to: (1) Part 139 of Title 1 NYCRR, Agriculture and Markets Law, Sections 18, 164 and 167, as amended, and (2) State Administrative Procedure Act, Section 202, as amended.

1. All tree work performed within the quarantine areas must be performed by New York State Department of Agriculture and Markets (NYSDAM) certified entities. Transportation of all host material, living, dead, cut or fallen, inclusive of nursery stock, logs, green lumber, stumps, roots, branches and debris of a half inch or more in diameter from the quarantine areas is prohibited unless the Contractor or its sub-contractor performing tree work has entered into a compliance agreement with NYSDAM. The terms of said compliance agreement shall be strictly complied with. Any host material so removed shall be delivered to a facility approved by NYSDAM. For the purpose of this contract host material shall be ALL species of trees.
2. Any host material that is infested with the Asian Longhorned Beetle must be immediately reported to NYSDAM for inspection and subsequent removal by either State or City contracts, at no cost to the Contractor.
3. Prior to commencement of tree work, the Contractor shall submit to the Commissioner a copy of a valid Asian Longhorned Beetle compliance agreement entered into with NYSDAM and the Contractor or its sub-contractor performing tree work. If any host material is transported from the quarantine area the Contractor shall immediately provide the Commissioner with a copy of the New York State 'Statement of Origin and Disposition' and a copy of the receipt issued by the NYSDAM approved facility to which the host materials are transported.
4. Quarantine areas, for the purpose of this contract shall be defined as all five boroughs of the City of New York. In addition, prior to the start of any tree work, the Contractor shall contact the



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NYC Department of Parks & Recreation's Director of Landscape Management at (718) 699-6724, to determine the limits of any additional quarantine areas that may be in effect at the time when tree work is to be performed. The quarantine area may be expanded by Federal and State authorities at any time and the Contractor is required to abide by any revisions to the quarantine legislation while working on this contract. For further information please contact: NYSDAM (631) 288-1751.

- B. Tree Protection Requirements: The Contractor shall retain a Certified Arborist, as defined by New York City Department of Parks and Recreation (NYCDPR) regulations, to provide the services described below.
1. Surveys and Reports: The Certified Arborist shall, at the times indicated below, conduct a survey and prepare a plant material assessment report which includes: (1) identification, by species and pertinent measurements, of all plant material located on the project site, or in proximity to the project site, as described below, including all trees, significant shrubs and/or planting masses; (2) identification and plan for the containment of plant pests and pathogens, including the ALB, as described in paragraph A above; (3) evaluation of the general health and condition of any infected plant material.
 2. Frequency of Reports: The Certified Arborist shall conduct a survey and provide a plant material assessment report at two (2) points in time: (1) prior to the commencement of construction work; and (2) at the time of substantial completion. In addition, for projects exceeding 24 months in duration, the Certified Arborist shall conduct a survey and prepare a report at the midpoint of construction. Copies of each plant material assessment report shall be submitted to the Resident Engineer within two (2) weeks of the survey.
 3. Proximity to Project Site: Off-site trees, significant shrubs and/or planting masses shall be considered to be located in proximity to the project site under the circumstances described below.
 - a. The tree trunk, significant shrub, or primary cluster of stems in a planting mass is within 50 (fifty) feet of the project's Contract Limit Lines (CLLs) or Property Lines (PLs).
 - b. Any part of the tree or shrub stands within 50 (fifty) feet of: (a) a path for site access for vehicles and/or construction equipment; or (b) scaffolding to be erected for construction activity, including façade remediation projects.
 - c. The Certified Arborist determines that the critical root zone (CRZ) of an off-site tree, significant shrub, or primary cluster of stems in a planting mass extends into the project site, whether or not that plant material is located within the 50-foot inclusionary perimeter as outlined above.
 4. Tree Protection Plan: The Certified Arborist shall prepare, and the Contractor shall implement, a Tree Protection Plan, for all trees that may be affected by any construction work, excavation or demolition activities, including without limitation, (1) on-site trees, (2) street trees, as defined below, (3) trees under NYCDPR jurisdiction as determined by the Department of Transportation, and (4) all trees that are located in proximity to the project site, as defined above. The Tree Protection Plan shall comply with the NYC DPR rules, regulations and specifications. The Contractor is referred to Chapter 5 of Title 56 of the Official Compilation of the Rules of the City of New York. Copies of the Tree Protection Plan shall be submitted to the Resident Engineer prior to the commencement of construction. Implementation of the Tree Protection Plan for street trees and trees under NYCDPR jurisdiction shall be in addition to any tree protection requirements specified or required for the project site. For the purpose of this article, a "street tree" means the following: (1) a tree that stands in a sidewalk, whether paved or unpaved, between the curb lines or lateral lines of a roadway and the adjacent property lines



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of the project site, or (2) a tree that stands in a sidewalk and is located within 50 feet of the intersection of the project's site's property line with the street frontage property line.

- C. No Separate Payment. No separate payment shall be made for compliance with Plant Pest Control Requirements or Tree Protection Requirements. The cost of compliance with Plant Pest Control Requirements and Tree Protection Requirements shall be deemed included in the Contractor's bid for the Project.

3.16 PROJECT IDENTIFICATION SIGNAGE:

- A. The Contractor shall provide, install and maintain Project identification and other signs where indicated to inform public and individuals seeking entrance to the Project.
- B. In order to properly convey notice to persons entering upon a City construction site, the Contractor shall furnish and install a sign at the entrance (gates) as follows:

NO TRESPASSING

AUTHORIZED PERSONNEL ONLY

- C. If no construction fence exists at the site, this notice shall be conveyed by incorporating the above language into safety materials (barriers, tape, and signs).
- D. Provide temporary, directional signs for construction personnel and visitors.
- E. Maintain and touch up signs so that they are legible at all times.

3.17 PROJECT CONSTRUCTION SIGN AND RENDERING:

A. **PROJECT SIGN:**

- 1 Responsibility: The Contractor shall produce and install one (1) project sign which shall be posted and maintained upon the site of the project at a place and in a position directed by the Commissioner. The Contractor shall protect the sign from damage during the continuance of work under the Contract and shall do all patching of lettering, painting and bracing thereof necessary to maintain the sign in first class condition and in proper position. Prior to fabrication, the Contractor shall submit an 8-1/2" x 11" color match print proof from the sign manufacturer of the completed sign for approval by the Commissioner.
- 2 Sign Quality: The Contractor shall provide all materials required for the production of the sign as specified herein. Workmanship shall be of the best quality, free from defects and shall be produced in a timely manner.
- 3 Schedule: Upon project mobilization, the Contractor shall commence production and installation of the sign.
- 4 Removal: At the completion of all work under the Contract, the Contractor shall remove and dispose of the project sign away from the site.
- 5 Sign construction:
 - a. Frame: The frame shall be from quality dressed 2"x2" pine, fire retardant, pressure treated lumber, that surrounds the inside back edge of the sign. The sign shall have one (1) intermediate vertical and two (2) diagonal supports, glued and screwed for rigidity. Frame shall be painted white with two (2) coats of exterior enamel paint, prior to mounting of sign panel.
 - b. Edging: U-shaped, 22 gauge aluminum edging, with a white enameled finish to match sign



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- background, shall run around entire edging of sign panel and frame. Corners shall be mitered for a tight fit. Channel dimensions shall be 1" inch (overlap to sign panel face) x 1 3/4" (or as required across frame depth) x 1" (back overlap).
- c. Sign Panel: 4' x 8' panel shall be constructed in one (1) piece of 14 gauge (.0785") 6061-T6 aluminum. This panel shall be pre-finished both sides with a glossy white baked-on enamel finish and be flush with edge of 2" x 2" wood frame. Samples must be submitted for approval.
 - d. Fastening: Fasten sign panel to wood frame using cadmium plated no. 8 sheet metal screws at 1/2" below edge of panel and 8" on center. The U-shaped aluminum channel shall be applied over the wood frame edge and fastened with cadmium plated no. 8 sheet metal screws at 12" on center around the entire perimeter.
- 6 Sign Graphics:
- a. A digital file of the project sign will be provided to the Contractor by the Commissioner's representative for printing. The Commissioner's representative shall insert the project name and names and titles of personnel (3 or more) and any other required information associated with the project. All signs may include a second panel for a project rendering as described in Sub-Section 3.17.B herein.
 - b. The digital file shall be reproduced at the Sign Panel size of 4' x 8' on 3M High Performance Vinyl or approved equal. The 3M High Performance Vinyl or equivalent shall be guaranteed for nine (9) years. Guarantee must cover fading, peeling, chipping or cracking. The sign manufacturer is required to maintain all specified Pantone Matching System (PMS) type and other composition elements represented in the digital file of the project sign.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.17 B

B. PROJECT RENDERING:

- 1. Responsibility: In addition to the Project Sign, the Contractor shall furnish and install one (1) sign showing a rendering of the project. A digital file of the project rendering will be provided to the Contractor by the Commissioner's representative. From an approved image file provided by DDC, the Project Rendering is to be sized, printed, and mounted in an identical manner as described in Sub-Section 3.17.A above for the Project Sign. A color match print proof from the sign manufacturer of the Rendering Sign printed from the supplied file is to be submitted to DDC for approval before fabrication. The Rendering Sign is to be posted at the same height as the Project Sign. Where possible, the Rendering Sign shall be mounted with a perfect match of the short sides of the rectangle so that the Rendering Sign and the Project Sign together will create one long rectangle.
- 2. Removal: At the completion of all work under the Contract, the Contractor shall remove and dispose of the project rendering away from the site.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.18

3.18 SECURITY GUARDS/FIRE GUARDS ON SITE:

A. SECURITY GUARDS (WATCHMEN):

- 1. The Contractor shall provide competent Security Guard Service on the site, beginning on the date on which the Contractor commences actual construction work, or on such earlier date on which there is activity at the site related to the work, including without limitation, delivery of



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materials or construction set-up. The Contractor shall continue to provide such Security Guard Service until the date on which it completes all required work at the site, including all punch list work, as certified in writing by the Resident Engineer, or earlier if so directed in writing by the Commissioner. Throughout the specified time period, there shall be no less than one (1) Security Guard on duty every day, including Saturdays, Sunday and Holidays, 24 hours a day, except between the hours of 8:00 A.M. and 4:00 P.M. on any day which is a regular working day for a majority of the trade subcontractors. This exception during the working day shall not apply after the finishing painting of the plaster work is commenced; thereafter, not less than one (1) Security Guard shall be on duty continuously, 24 hours a day.

2. Every Security Guard shall be required to hold a "Certificate of Fitness" issued by the Fire Department. Every Security Guard shall, during his/her tour of duty, perform the duties of Fire Guard in addition to his/her security obligations.
 3. Should the Commissioner find that any Security Guard is unsatisfactory; such guard shall be replaced by the Contractor upon the written demand of the Commissioner.
 4. Each Security Guard furnished by the Contractor shall be instructed by the Contractor to include in his/her duties the entire construction site including the Field Office, temporary structures, and equipment, materials, etc.
 5. Should the Contractor or any other subcontractor consider the security requirements outlined above inadequate, the Contractor shall provide such additional security as it thinks necessary, after obtaining the written consent of the Commissioner. The additional cost of such approved increased protection will be paid by the Contractor.
 6. Nothing contained in this Sub-Section shall diminish in any way the responsibility of the Contractor and each subcontractor for its own work, materials, tools, equipment, nor for any of the other risks and obligations outlined hereinbefore in this Article.
- B. COSTS - The Contractor shall employ Security Guards/Fire Guards throughout the specified time period, except as otherwise modified by the detailed Specifications and as approved by the Commissioner, for the purpose of safeguarding and protecting the site. All costs for Security Guards/Fire Guards shall be borne by the Contractor.
- C. RESPONSIBILITY - The Contractor and its subcontractors will be responsible for safeguarding and protecting their own work, materials, tools and equipment.

3.19 SAFETY:

- A. The Contractor, in compliance with requirements of Section 01 35 26, SAFETY REQUIREMENTS PROCEDURES, shall provide and maintain all necessary temporary closures, guard rails, and barricades to adequately protect all workers and the public from possible injury. Any removal of these items, during the progress of the work, shall be replaced by the Contractor at no additional cost to the City.

END OF SECTION 01 50 00



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No Text



SECTION 01 54 11
TEMPORARY ELEVATORS AND HOISTS

PART I – GENERAL

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].

1.2 SUMMARY:

- A. This section includes the following:
 - 1. Temporary Use, Operation and Maintenance of Elevators during Construction
 - a. For New buildings up to 15 Stories
 - b. For New buildings over 15 Stories
 - c. For Existing Buildings
 - 2. Temporary Construction Hoists and Hoist ways (For Material and Personnel)

1.3 RELATED SECTIONS: include without limitation the following:

- A. Section 01 10 00 SUMMARY
- B. Section 01 42 00 REFERENCES
- C. Section 01 50 00 TEMPORARY FACILITIES AND CONTROLS
- D. Section 01 54 23 TEMPORARY SCAFFOLDS AND SWING STAGING
- E. Section 01 77 00 CLOSE OUT PROCEDURES

PART II – PRODUCTS (Not Used)

PART III – EXECUTION

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.1

3.1 TEMPORARY USE, OPERATION AND MAINTENANCE OF ELEVATORS DURING CONSTRUCTION FOR NEW BUILDINGS UP TO AND INCLUDING 15 STORIES:

- A. **INSTALLATION:** The Contractor shall install, complete, operate, and maintain in good working order, as indicated herein, one (1) selected main elevator for the transport of employees of the Contractor and/or its subcontractors, and representatives of the DDC and other Governmental Agencies having jurisdiction of work at the project. The Contractor shall furnish, install, and maintain such elevator in good working order, including all necessary hoisting ropes, governor cables, traveling conductor cables, operating devices, temporary hand reset target annunciators, temporary signal devices, and all other permanent or temporary parts. The installation, operation and maintenance of the temporary elevator and all equipment and/or parts utilized in connection therewith shall be in accordance with the rules and regulations of all agencies and/or entities having jurisdiction over elevators in temporary use.
- B. **RESPONSIBILITY:** The Contractor shall be responsible for any injury to persons or damage to property arising out of the temporary elevator and all equipment and/or parts utilized in connection therewith.



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- C. **COSTS:** The Contractor shall be responsible for all costs in connection with the temporary elevator, including without limitation: (1) installing and operating the temporary elevator, (2) maintaining the temporary elevator in clean, proper operating condition, including the cost of lubricants and/or parts for such maintenance, (3) performing all work in pits, shaft ways and machine rooms necessary for the operation of the temporary elevator, (4) replacing the temporary elevator or any equipment or parts utilized in connection therewith, if required, due to damage, destruction or excessive wear or corrosion, except for the replacement of hoisting ropes as set forth below, (5) performing all required electrical work in connection with the temporary elevator, (6) providing all electric power required to operate the temporary elevator, (7) providing all necessary conduit and wiring connections for the proper operation and signaling of the temporary elevator, and (8) providing all labor for the operation and maintenance of the temporary elevator, including on an overtime basis if necessary. The total Contract Price shall include all costs in connection with the temporary elevator, including without limitation, the costs specified herein.
- D. **COMMENCEMENT OF SERVICE:** The Contractor shall begin to provide temporary elevator service using the selected main passenger elevator no later than eight (8) weeks (40 working days) after the machine room roof slab, or that portion of it surrounding the elevator shaft, has been placed. No later than three (3) weeks (15 working days) after the machine room roof slab, or that portion of it surrounding the elevator shaft, has been placed the following work shall have been completed:
1. The shaft shall have been completely enclosed by either the permanent or a temporary enclosure meeting the requirements of the law.
 2. The machine room shall have been made completely watertight either by permanent or temporary construction. Beams or other devices, either permanent or temporary shall be provided which will enable the safe and practicable hoisting of the elevator machinery for installation.
 3. There shall have been installed on all floors at the shaft way entrances to the elevator, solid substantial frames and either sliding or swing doors with substantial hardware and door locks and any necessary approved wire mesh barricades for adjacent shaft ways.
 4. There shall have been furnished and installed solid substantial enclosures at front, back, sides and top of car platform enclosure, with emergency exit at top of car, excepting that the portion of the front at the elevator entrance shall have been provided with a substantial temporary door or gate.
- E. **ELECTRICAL INSTALLATION:** The Contractor, not later than 20 calendar days after the machine room roof slab or that portion of its surrounding the elevator has been placed, shall have furnished and installed temporary or permanent power and light feeders as required for the elevator used for temporary service and shall have connected such feeders to the terminals on the starter panels or controllers in the machine room to the low voltage transformers and car light outlets in the center of shaft way and for the car control and signal traveling cables. The Contractor shall make all these required connections as soon as the equipment is declared ready for such connections by the Resident Engineer.
- F. **REMOVAL:** When elevators for permanent use have been installed and are in condition for service, and when directed by the Commissioner, the Contractor shall remove the temporary enclosures and all temporary elevator equipment and promptly proceed with the installation of the permanent equipment as required under the Contract.
- G. **INSPECTION:** Before temporary elevator equipment is removed, a joint inspection of the equipment shall be made by the Contractor and the Commissioner to determine the condition of this equipment upon the discontinuation of its temporary use. If this inspection deems it necessary, the Contractor shall furnish and install new governor and compensating ropes, new traveling cables and new controller parts, etc. The car and counterweight safeties shall be thoroughly cleaned of all dirt and all foreign matter, then properly lubricated and placed in good operating condition to the satisfaction of the Commissioner. If it is determined and ordered by the Commissioner that new hoist ropes are required, such ropes shall be installed and payment therefore will be made in accordance with Article 26 of the Contract.



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- H. **REPLACEMENT:** The Contractor shall furnish and install new equipment or parts for any equipment or parts of the temporary elevator installation that have been damaged, destroyed, or that indicate excessive wear or corrosion, excepting the replacement of hoisting ropes. All shaft ways, pits, motor rooms and sheave spaces used for temporary operation of elevators shall be thoroughly cleaned. Where lubricated rails are used they shall be washed down. If roller guides are used, all rust, dirt, etc., must be moved from the rails. The full cost of parts replacement, cleaning, etc., shall be borne by the Contractor except for the replacement of hoisting ropes.
- I. **LIMITATIONS ON USE:** The temporary elevator shall not be used during its operation for the hoisting of materials or the removal of rubbish, but shall be limited only to the transportation of employees of the Contractor and/or its subcontractors, and representatives of DDC and other Governmental Agencies having jurisdiction of work at the project. However, the Resident Engineer may grant special permission at specified times to the Contractor and/or its subcontractors to hoist materials, which in the Resident Engineer's opinion will not overload or damage the elevator installation, but only after such times as all plastering has been completed from the second floor up. In the event of any damage to the temporary elevator, the Contractor shall notify the Resident Engineer within 24 hours after such damage has occurred. As indicated above, the Contractor shall be responsible for the replacement of any equipment or parts of the temporary elevator that have been damaged.
- J. **LIQUIDATED DAMAGES:** The Contractor will be charged at the rate of \$100 per day for each day it fails to provide the temporary elevator service described in this section beginning with the 41st working day after the machine room roof slab, or that portion of it surrounding the elevator shaft, has been placed and stripped. This charge will be deducted from any amount due and owing to the Contractor.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.2

3.2 TEMPORARY USE, OPERATION AND MAINTENANCE OF ELEVATORS DURING CONSTRUCTION FOR NEW BUILDING OVER 15 STORIES:

- A. **INSTALLATION:** The Contractor shall install, complete, operate, and maintain in good working order, as indicated herein, two (2) selected main elevators for the transport of employees of the Contractor and/or its subcontractors, and representatives of the DDC and other Governmental Agencies having jurisdiction of work at the project. The Contractor shall furnish, install, and maintain such elevators in good working order, including all necessary hoisting ropes, governor cables, traveling conductor cables, operating devices, temporary hand reset target annunciators, temporary signal devices, and all other permanent or temporary parts. The installation, operation and maintenance of the temporary elevators and all equipment and/or parts utilized in connection therewith shall be in accordance with the rules and regulations of all agencies and/or entities having jurisdiction over elevators in temporary use. The two (2) elevators shall not be operated simultaneously.
- B. **RESPONSIBILITY:** The Contractor shall be responsible for any injury to persons or damage to property arising out of the temporary elevators and all equipment and/or parts utilized in connection therewith.
- C. **COSTS:** The Contractor shall be responsible for all costs in connection with the temporary elevators, including without limitation: (1) installing and operating the temporary elevators, (2) maintaining the temporary elevators in clean, proper operating condition, including the cost of lubricants and/or parts for such maintenance, (3) performing all work in pits, shaft ways and machine rooms necessary for the operation of the temporary elevators, (4) replacing the temporary elevators or any equipment or parts utilized in connection therewith, if required due to damage, destruction or excessive wear or corrosion, except for the replacement of hoisting ropes as set forth below, (5) performing all required electrical work in connection with the temporary elevators, (6) providing all electric power required to operate the temporary elevators, (7) providing all necessary conduit and wiring connections for the proper operation and signaling of the temporary elevators, and (8) providing all labor for the operation and maintenance of the temporary elevators, including on an overtime basis if necessary. The total Contract Price shall



include all costs in connection with the temporary elevators, including without limitation, the costs specified herein.

- D. **LOW RISE ELEVATOR:** The Contractor shall begin to provide temporary elevator service using one (1) selected main passenger elevator no later than six (6) weeks (30 working days) after the 12th Floor slab, or that portion of it surrounding the elevator shaft, has been placed and stripped. No later than one (1) week, five (5) working days, after the 12th Floor slab, or that portion of it surrounding the elevator shaft, has been placed and stripped the following work shall have been completed:
1. The shaft shall have been completely enclosed up to the 12th Floor by either the permanent or a temporary enclosure meeting the requirements of the law.
 2. A temporary machine room enclosure shall have been provided at the 11th Floor and shall have been made completely watertight either by permanent or temporary construction. Beams or other devices, either permanent or temporary, shall be provided which will enable the safe and practicable hoisting of the elevator machinery for installation.
 3. There shall have been installed on all floors up to and including the 9th Floor at the shaft entrances to the elevator, solid substantial wood frames and either sliding or swing doors with substantial hardware and door locks, also any necessary approved wire mesh barricades for adjacent shaft ways.
 4. There shall have been furnished and installed solid substantial enclosures at front, back, sides and top of car platform enclosure, with an emergency exit at top of car, excepting that the portion of the front at the elevator entrance shall have been provided with a substantial temporary door or gate.
- E. **ELECTRICAL INSTALLATION:** The Contractor not later than 10 calendar days after the 12th Floor slab or that portion of it surrounding the elevator, has been poured and stripped, shall have furnished and installed temporary or permanent power and light feeders as required for the elevator used for temporary service and shall have connected such feeders to the terminals on the starter panels or controllers in the temporary machine room, to the low voltage transformers and car light outlets in the center of the shaftway and for the car control and signal traveling cables. The Contractor shall make all these required connections as soon as the Equipment is declared ready for such connections by the Resident Engineer.
- F. **HIGH RISE ELEVATOR:** The Contractor shall begin to provide temporary elevator service to all floors, using a selected main passenger elevator, no later than eight (8) weeks (40 working days) after the machine room roof slab, or that portion of it surrounding the elevator shaft, has been placed. No later than three (3) weeks (15 working days) after the machine room roof slab, or that portion of it surrounding the elevator shaft, has been placed, the following work shall have been completed:
1. The shaft shall have been completely enclosed by either the permanent or temporary enclosure, meeting the requirements of the law.
 2. The machine room shall have been made completely watertight either by permanent or temporary construction. Beams or other devices, either permanent or temporary shall be provided which will enable the safe and practicable hoisting of the elevator machinery for installation.
 3. There shall have been installed on all floors at the shaft way entrances to the elevator, solid substantial frames and either sliding or swing doors with substantial hardware and door locks, also any necessary approved wire mesh barricades for adjacent shaft ways.
 4. There shall have been furnished and installed, solid substantial enclosures at front, back, sides and top of car platform enclosure, with an emergency exit at top of car, excepting that the portion of the front at the elevator entrance shall have been provided with a substantial temporary door or gate.
- G. **ELECTRICAL INSTALLATION:** The Contractor, not later than 20 calendar days after the machine room slab or that portion of it surrounding the elevator shaft has been placed, shall have furnished and installed temporary or permanent power and light feeders as required for the high rise elevator to be used for



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temporary service and shall have connected such feeders to the terminals on the motor-generator starter panels or controllers in the machine room, to the signal circuits low voltage transformers for the annunciators and car light outlets in the center of shaft way. The Contractor shall make all these required connections as soon as the equipment is declared ready for such connections by the Resident Engineer.

- H. When the high rise elevator is completed and ready for temporary operation, the low rise temporary elevator shall be shut down.
- I. REMOVAL: When one (1) or more elevators for permanent use have been installed and are in condition for service, and when directed by the Commissioner, the Contractor shall remove the temporary enclosures and all temporary elevator equipment, and promptly proceed with the installation of the permanent equipment as required under the Contract.
- J. INSPECTION: Before temporary elevator equipment is removed, a joint inspection of the equipment shall be made by the Contractor and the Commissioner to determine the condition of this equipment upon the discontinuation of its temporary use. If this inspection determines it necessary, the Contractor shall furnish and install new governor and compensating ropes, new traveling cables, new controller parts, etc. The car and counterweight safeties shall be thoroughly cleaned of all dirt and all foreign matter, then properly lubricated and placed in good operating condition to the satisfaction of the Commissioner. If it is determined and ordered by the Commissioner that new hoist ropes are required, such ropes shall be installed and payment therefore will be made in accordance with Article 26 of the Contract.
- K. REPLACEMENT: The Contractor shall furnish and install new equipment or parts for any equipment or parts of the temporary elevator installations that have been damaged, destroyed, or that indicate excessive wear or corrosion, excepting the replacement of hoisting ropes. All shaft ways, pits, motor rooms and sheaves spaces used for temporary operation of elevators shall be thoroughly cleaned down. Where lubricated rails are used they shall be washed down, if roller guides are used, all rust, dirt, etc., must be removed from the rails. The full cost of parts replacement cleaning, etc., shall be borne by the Contractor except for the replacement of hoisting ropes.
- L. LIMITATIONS ON USE: The temporary elevators shall not be used during their operation for the hoisting of materials or the removal of rubbish, but shall be limited only to the transportation of employees of the Contractor and/or its subcontractors, and representatives of DDC and other Governmental Agencies having jurisdiction of work at the project. However, the Resident Engineer may grant special permission at specified times to the Contractor and/or its subcontractors to hoist materials, which in the Resident Engineer's opinion will not overload or damage the elevator installation, but only after such times as all plastering has been completed from the second floor up. In the event of any damage to the temporary elevator, the Contractor shall notify the Resident Engineer within 24 hours after such damage has occurred. As indicated above, the Contractor shall be responsible for the replacement of any equipment or parts of the temporary elevator that have been damaged.
- M. LIQUIDATED DAMAGES: The Contractor will be charged at the rate of \$100 per day for each day it fails to provide the temporary elevator service described in this Section beginning with the 31st working day after the 12th Floor slab, or that portion of the 12th Floor slab surrounding the elevator shaft, has been placed and stripped. This charge will be deducted from any amount due and owing to the Contractor.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.3

3.3 TEMPORARY USE, OPERATION AND MAINTENANCE OF ELEVATORS DURING CONSTRUCTION FOR EXISTING BUILDINGS:

- A. The Contractor may use, at the Commissioner's discretion, one (1) selected elevator in the building for temporary operation by the Contractor for the transportation of employees of the Contractor and/or its subcontractors, and representatives of DDC and other Governmental Agencies having jurisdiction over the work at the Project. The operation of the temporary elevator and all equipment and/or parts utilized in



connection therewith shall be in accordance with the rules and regulations of all agencies and/or entities having jurisdiction over elevators in temporary use.

- B. **RESPONSIBILITY:** The Contractor shall be responsible for any injury to persons or damage to property arising out of the temporary elevator and all equipment and/or parts utilized in connection therewith.
- C. **REPLACEMENT:** The Contractor shall furnish and install new equipment or parts for any equipment or parts of the elevator for temporary operation that have been damaged, destroyed, or that indicate excessive wear or corrosion, excepting the replacement of hoisting ropes. All shaft ways, pits, motor rooms and sheave spaces used for temporary operation of elevators shall be thoroughly cleaned down. Where lubricated rails are used they shall be washed down, if roller guides are used, all rust, dirt, etc., must be moved from the rails. The full cost of parts replacement, cleaning, etc., shall be borne by the Contractor except for the replacement of hoisting ropes. If it is determined and ordered by the Commissioner that new hoist ropes are required, such ropes shall be installed and payment therefore will be made in accordance with Article 26 of the Contract.
- D. **LIMITATIONS ON USE:** The temporary elevator shall not be used during its operation for the hoisting of materials or the removal of rubbish, but shall be limited only to the transportation of employees of the Contractor and/or its subcontractors, and representatives of DDC and other Governmental Agencies having jurisdiction of work at the project. However, the Resident Engineer may grant special permission at specified times to the Contractor and/or its subcontractors to hoist materials, which in the Resident Engineer's opinion will not overload or damage the elevator installation. In the event of any damage to the temporary elevator, the Contractor shall notify the Resident Engineer within 24 hours after such damage has occurred. As indicated above, the Contractor shall be responsible for the replacement of any equipment or parts of the temporary elevator that have been damaged.
- E. **LIQUIDATED DAMAGES:** The Contractor will be charged at the rate of \$100 per day for each day it fails to provide elevator services described in this section beginning with 15 consecutive calendar days from Notice to Proceed. This charge will be deducted from any amount due and owing to the Contractor.

3.4 TEMPORARY HOISTS AND HOISTWAYS (FOR MATERIAL AND PERSONNEL):

- A. **RESPONSIBILITY:** The Contractor shall provide adequate numbers of material hoists for the most expeditious performance of all parts of the work including the work of all its subcontractors.
- B. **LOCATIONS:** No hoists shall be constructed at such locations as will interfere with, or affect the construction of, floor arches, or the work of subcontractors. The hoists may be located at the exterior sides of the structure or in the courtyard and extend upward adjacent to the line of window openings. The hoists shall be located a sufficient distance from the exterior walls and be so protected as to prevent any of the permanent work from being damaged, stained or marred.
- C. **ELEVATOR SHAFT:** Wherever possible, one or more of the permanent elevator shafts may be used as temporary hoist ways, providing such use complies with the requirements of the Building Code of the City of New York and has been approved by the Commissioner, and providing further it entails no interference with the progress of the work.
- D. **PROTECTION FOR INTERIOR HOISTS:** All interior material hoist ways shall be enclosed on each floor and shall be adequately protected with appropriate safety guards. In no event shall the protection be less than that required by law.

END OF SECTION 01 54 11



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SECTION 01 54 23 TEMPORARY SCAFFOLDING AND PLATFORMS

PART I – GENERAL

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].
- B. Section 01 35 26: Safety Requirements Procedures.
- C. The Contractor shall comply with the requirements of "*The City of New York Department of Design and Construction Safety Requirements*". This document is included in the Information for Bidders.

1.2 SUMMARY:

- A. This Section includes administrative and general procedural requirements for Temporary Scaffolding and Platforms, including:
 - 1. Conformance
 - 2. Responsibility
 - 3. Jobsite Documentation and Submittals
 - 4. Inspections
- B. This Section governs ALL scaffold used on DDC project sites including, but not limited to, Suspended Scaffold, Supported Scaffold and Sidewalk Sheds.

1.3 CONFORMANCE:

- A. Unless otherwise indicated, the Contractor is responsible for providing, erecting, installing and maintaining all temporary scaffolding and platforms which shall comply with requirements of Chapter 33 (Safeguards During Construction or Demolition) of the NYC Building Code, NYC Local Law 52 of 2005, OSHA Construction Standard 1926 Subpart L, and furnishing the items and personnel set forth in this section.

1.4 RESPONSIBILITY:

- A. Jobsite Safety Coordinator: The Contractor shall designate and employ a Jobsite Safety Coordinator, who shall be a competent person, who shall have a daily presence on the project site during scaffold use. This designee must possess and maintain a valid New York City Department of Buildings supported scaffold certificate of completion. An alternate shall also be designated, in the event that the Jobsite Safety Coordinator is absent. The Jobsite Safety Coordinator shall:
 - 1. Verify completeness of documentation and submittals (as described below).
 - 2. Verify that inspections are performed, including pull tests (see below), reports are filed and reported deficiencies are corrected.
 - 3. Monitor trades using scaffold.
 - 4. Limit access to scaffold areas that are tagged for non-use.
 - 5. Inform trades of scaffold load limitations.
 - 6. Monitor loading of decks.
 - 7. Verify that any ties that are temporarily removed are properly restored in the same shift.
 - 8. Verify that outriggers and planks that are moved are properly set up and secured.
 - 9. Verify that all scaffold decks in use have proper access/egress.
 - 10. Verify that all open sides of decks in excess of 14 inches have proper guardrails and toe-boards.



11. Notify appropriate parties, including but not limited to the Resident Engineer, site safety coordinator / monitor, site safety consultant, scaffold users, contractor and the scaffold engineer, of misuses, non-conformances, hazards and accidents.
 12. Keep a log of significant actions and events connected with the scaffolding.
- B. The Contractor shall be responsible for erecting, maintaining and dismantling the scaffolding and/or sidewalk shed in conformance with requirements of the New York City Building Code, OSHA and the Contract documents, including the specifications. The Contractor shall also be guided by generally accepted standards of scaffold industry practice as promulgated by the Scaffold Industry Association.
- C. The Contractor shall require the subcontractor responsible for erecting the scaffolding to engage a Scaffold Engineer, licensed as a professional engineer by the State of New York. The Scaffold Engineer shall be responsible to ensure the following: (1) that the installation design is in compliance with requirements of the New York City Building Code and OSHA, (2) that the design comports with the capabilities of the components and the characteristics of the site, (3) that scaffold loads on the host building, including netting, have been properly considered, and (4) that the design documents provide accurate information for erectors and users.
- D. Scaffold users are trade contractors assigned to work on the scaffold. Training certificates from a New York City Department of Buildings approved training provider are mandatory. These users have the duty to become familiar with the New York City Building Code and OSHA requirements germane to users, to obey the instructions of the Jobsite Safety Coordinator and to inform the Jobsite Safety Coordinator of known hazards, non-conformances or violations.

1.5 JOBSITE DOCUMENTATION AND SUBMITTALS:

The Contractor shall prepare, obtain and submit the following to the Resident Engineer:

- A. NYC Department of Buildings permit(s) for scaffold and sidewalk sheds (as applicable) including filing applications signed and sealed by a Professional Engineer licensed in the State of New York;
- B. Site logistics plan / site safety plan;
- C. Installation drawing(s), design and product data to be provided for all scaffold(s) and shed(s) must include, at a minimum:
1. Plan(s);
 2. Elevation(s);
 3. Duty load designation; "standard" (150 psf live load) or "heavy duty" (300 psf live load).
 4. Details including base support, anchors and ties;
 5. Notes and specifications including load limits, number of planked levels, tie spacing, netting, and sequence of installation and removal.
 6. Anchorage into sound material.
 7. Load limits based on pull tests;
 8. Specifications for pull test(s), method, proof load and the number of trials;
 9. Elevations, levels or heights, where anchorage is made into masonry;
 10. Specifications for frames, planks, screw jacks, anchors, and any other ancillary hardware;
 11. Samples for anchors, ties and netting;
 12. Sequence of operations for erection and demolition;
 13. Location plan, heights, widths, "jumps" over doorways and driveways;
 14. Specify size, maximum span and maximum spacing of headers and stringers;
 15. Specify legs, girts, braces, nailing and connections;
 16. All sidewalk sheds shall be designed, engineered, signed and sealed by a Professional Engineer licensed in the State of New York;
 - a. Generic (not job specific) engineering drawings are satisfactory for standard sheds and arrangements.



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- b. Special engineering is required for custom sheds, site-specific problems or non-standard arrangements.

1.6 INSPECTIONS:

- A. Signed inspection reports shall be issued for each inspection and pull-test below, and shall be logged and maintained on site by the Jobsite Safety Coordinator for the duration of the project.
- B. Pull testing shall be required during design, and during or post erection, where anchorage is made into masonry. The Scaffold Engineer shall specify the test method, proof load and the number of trials.
- C. Sidewalk sheds shall be inspected after initial installation, major modification, or damage and thence every three months. Inspections shall be by a Scaffold Engineer for custom sheds and by a Competent Person employed by the Contractor for standard sheds.
- D. Scaffolds shall be inspected by the Scaffold Engineer during erection, post-erection and prior to use and thence every three months. The Scaffold Engineer shall repeat inspections after major alteration/modification, damage.
- E. A Qualified Person assigned by the Contractor shall inspect the progress of erection and dismantling, and the condition and integrity of the sidewalk sheds after high winds, major storms and at least once per month during usage.
- F. A Qualified Person assigned by the Contractor shall inspect the progress of erection and dismantling at least weekly, and the condition and integrity of the scaffold after high winds, major storms and at least once per month during usage.
- G. Scaffolds and Sidewalk Sheds shall be inspected daily by the Jobsite Safety Coordinator or alternate prior to use by scaffold users. The inspection results must be recorded in the maintenance log, and be available on-site at all times.
- H. At the completion of the project, submit all inspection documents as Miscellaneous Record Documents in accordance with Section 01 78 39, CONTRACT RECORD DOCUMENTS.

1.7 LADDERS AND STAIRS:

- A. The Contractor shall provide and maintain ladders or temporary stairs extending from the street to the first story, and to and from every floor and roof level of the project.

1.8 ACCESS AND EXITS:

- A. The ladders or temporary stairs shall be of acceptable size, number and location, so that proper and convenient access may be had by those required to proceed to and from all parts of the project.

PART II – PRODUCTS (Not Used)

PART III – EXECUTION (Not Used)

END OF SECTION 01 54 23



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SECTION 01 73 00 EXECUTION

PART I – GENERAL

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].

1.2 SUMMARY:

- A. This Section includes general procedural requirements governing execution of the Work including without limitation the following:
1. Delivery of Materials
 2. Contractor's Superintendent
 3. Surveys
 4. Borings
 5. Examination
 6. Environmental Assessment
 7. Preparation
 8. Deferred Construction
 9. Installation
 10. Permits
 11. Transportation
 12. Sleeves and Hangers
 13. Sleeve and Hanger Drawings
 14. Cutting and Patching
 15. Location of Partitions
 16. Furniture and Equipment
 17. Removal of Rubbish and Surplus Material
 18. Cleaning
 19. Security And Protection of Work Site
 20. Maintenance of Site and Adjoining Property
 21. Maintenance of Project Site
 22. Safety Precautions for Control Circuits
 23. Obstructions in Drainage Lines

1.3 RELATED SECTIONS: Include without limitation the following:

- | | | |
|----|------------------|--|
| A. | Section 01 10 00 | SUMMARY |
| B. | Section 01 31 00 | PROJECT MANAGEMENT AND COORDINATION |
| C. | Section 01 33 00 | SUBMITTAL PROCEDURES |
| D. | Section 01 74 19 | CONSTRUCTION WASTE MANAGEMENT & DISPOSAL |
| E. | Section 01 77 00 | CLOSEOUT PROCEDURES |
| F. | Section 01 78 39 | CONTRACT RECORD DOCUMENTS |



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1.4 DEFINITIONS:

- A. Refer to Article 2 of the Contract for definition of terms, words and expressions used in the General Conditions not otherwise defined herein.
- B. Design Consultant: "Design Consultant" shall mean the entity responsible for providing design services for the Project, including without limitation, preparing the construction documents (drawings and specifications) and providing services in connection with such documents during construction. The entity serving as the "Design Consultant" may be a corporation, firm, partnership, joint venture, individual or combination thereof. Such entity may be either an employee(s) of the City or an entity engaged by the City to provide such services.

1.5 QUALITY ASSURANCE:

- A. Land Surveyor Qualifications: A professional land surveyor who is licensed in the State of New York and who is experienced in providing land-surveying services of the kind indicated.

PART II – PRODUCTS (Not Used)

PART III – EXECUTION

3.1 DELIVERY OF MATERIALS:

- A. Material Orders: The Contractor shall furnish to the Commissioner a copy of each material order, indicating date of order and quantity of material, and shall also notify the Commissioner when materials have been delivered to the site and in what quantities.
- B. Ample Quantities: The Contractor shall deliver materials in ample quantities to insure the most prompt and uninterrupted progress of the work so as to complete the work within the Contract time.
- C. Containers: The manufacturer's containers shall be delivered with unbroken seals and shall bear proper labels.
- D. Deliveries: The Contractor shall coordinate deliveries in order to avoid delaying or impeding the progress of the work.
- E. Handling: The Contractor shall provide equipment and personnel to handle products by methods to prevent soiling or damage.
 - 1. Promptly inspect shipments to assure products comply with requirements, quantities are correct, and products are undamaged.
 - 2. Promptly return damaged shipments or incorrect orders to manufacturer.
 - 3. For materials or equipment to be reused or salvaged, use special care in removal, storage and reinstallation to insure proper function in completed work.
- F. Storage: Store products in accordance with provisions of Article 3.1, and periodically inspect to assure that stored products are undamaged and are maintained under required conditions.
- G. Stacking: All materials shall be properly stacked in convenient places adjacent to the site, or where directed, and protected in a satisfactory manner. Stacked materials shall be so arranged as to not interfere with visibility of traffic control devices.
- H. Overloading: If authority is given to store materials in any part of the project area, they shall be so stored as to cause no overloading.



- I. No Interference: If it becomes necessary to remove and restack materials to avoid impeding the progress of any part of the work or interfering with the work to be done by any trade subcontractor, the Contractor shall remove and restack such materials at no additional cost to the City.

3.2 CONTRACTOR'S CONSTRUCTION SUPERINTENDENT:

- A. Contractor's Construction Superintendent: The Contractor shall devote its time and personal attention to the work and shall employ and retain at the project site, from the commencement until the entire completion of the work, a Contractor's Construction Superintendent. The Contractor's Construction Superintendent shall be registered with the New York City Department of Buildings in compliance with the Construction Superintendent Rule of the City of New York and shall be competent and capable of maintaining proper supervision and care of the work and shall be acceptable to the Commissioner. The Construction Superintendent shall, in the absence of the Contractor, and irrespective of any superintendent or foreman employed by any subcontractor, shall see that the instructions of the Commissioner are carried out.
- B. Replacement: The Contractor's Construction Superintendent on the job shall not be changed or removed without the consent of the Commissioner.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.3

3.3 SURVEYS:

- A. Line and Grade: The City will establish a baseline and bench mark near the site of the work for use of the Contractor in connection with the performance of the work.
- B. Responsibility: The Contractor shall establish all other lines and elevations required for its work and shall be solely responsible for the accuracy thereof.
- C. Safeguard All Points: The Contractor shall safeguard all points, stakes, grade marks and bench marks made or established by the Contractor on the work, shall re-establish same if disturbed and bear the entire expense of rectifying the work improperly installed due to not maintaining, not protecting or removing without authorization such established points, stakes, or marks.
- D. City Monuments and Markers: No work shall be performed near City monuments or marks so as to disturb them until the said monuments or marks have been referenced or reset or otherwise disposed of by the relevant Agency or party who installed them.
- E. Foundations: The Contractor shall furnish certification from a licensed Surveyor that all portions of the foundation work are located in accordance with the Contract Drawings and at the elevations required thereby. This certification shall show the actual locations and the actual elevations of all the work in relation to the locations and elevations shown on the Contract Drawings, including but not restricted to the following:
 - 1. The locations and elevations of all piles, if any.
 - 2. Elevations of tops of all spread footings, tops of pile caps, and tops of all foundation walls, elevator pit walls and ramp walls.
 - 3. Location of all footing centers and pier centers including those for exterior wall columns.
 - 4. Location of all foundation walls including wall columns, elevator pit walls and ramp walls.
- F. Wall Lines: After the first courses of masonry or stone have been laid, the Contractor shall establish the permanent lines of exterior walls. The Contractor shall furnish promptly, certification from a licensed Surveyor, in the form of signed original drawings showing the exact location of such wall lines, of all portions of all structures. Except at its own risk, the Contractor shall not proceed further with the erection of walls until the Surveyor's certification has been submitted and verified for correct location of wall lines.



- G. Surveyor: The Surveyor selected for any of the purposes mentioned in Paragraph E and Paragraph F above, and Paragraph I below, shall be a land Surveyor licensed in the State of New York and shall be subject to the approval of the Commissioner. The Surveyor shall not be a regular employee of the Contractor, nor shall the Surveyor have any interest in the Contract. The Surveyor shall not be employed by the Contractor in laying out any work, it being intended that the Surveyor's certification shall represent an independent and disinterested verification of such layout. The Surveyor shall report to the Department of Design and Construction's Resident Engineer each time upon arrival to and departure from the site and review with the Resident Engineer the data required for the project.
- H. Final Certification: Final certification shall be submitted upon completion of the work or upon completion of any subdivision of the work as directed by the Commissioner. Any exceptions or deviations from the drawings shall be noted on the final certificate and there shall be included any maps, plates, notes, pertinent documents and data necessary, in the opinion of the Commissioner, to constitute a full and complete report.
- I. Final Survey: The Contractor shall submit to DDC for submission to the Department of Buildings a final Survey by the licensed Surveyor showing the location of the new Structure, before completion of the Structure. This Survey shall show the location of the first tier of beams or of the first floor; the finish grades of the open spaces on the plot; the established curb level and the location of all other Structures on the plan, together with the location and boundaries of the lot or plot upon which the Structure is constructed, curb cuts, all yard dimensions, etc.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.4

3.4 BORINGS:

- A. The work of this article shall be the responsibility of the Contractor unless otherwise indicated.
- B. Reference Drawings: The Boring Drawings as listed on the title sheet are for information to the bidder and are to be used under the conditions as follows:
 - 1. Boring Logs: shown on the Boring Drawings, record information obtained under engineering supervision in the course of exploration carried out by or under the direction of forces of the Department of Design and Construction at the site.
 - 2. Soils and Rock Samples: All inferences are drawn from the indications observed as made by engineering and scientific personnel. All such inferences and all records of the work including soil samples and rock cores, if any, are available to bidders for inspection.
 - 3. Certification of Samples: The City certifies that the work was carried out as stated, and that the soil samples and rock cores, if any were referred to, were actually taken from the site at the times, places and in the manner indicated. The samples are available for inspection in the Department of Design and Construction Subsurface Exploration Section.
 - 4. Bidder's Responsibility: The bidder, however, is responsible for any conclusions to be drawn from the work. If the bidder accepts those of the City, it must do so at its own risk. If the bidder prefers not to assume such risk, the bidder is under the obligation of employing its own experts to analyze the available information, and must be responsible for any consequences of acting on their conclusions.
 - 5. Continuity Not Guarantee: The City does not guarantee continuity of conditions shown at actual boring locations over the entire site. Where possible, borings are located to avoid all obstructions and previous construction which can be found by inspection of the surface and the bidder is required to estimate the influence of such features from its own inspection of the site.



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3.5 EXAMINATION:

- A. Existing Conditions: The existence and location of site improvements, utilities, and other construction indicated as existing are not guaranteed. Before beginning work, investigate and verify the existence and location of mechanical and electrical systems and other construction affecting the Work.
 - 1. Before construction, verify the location and points of connection of utility services.
- B. Existing Utilities: The existence and location of underground utilities and other construction indicated as existing are not guaranteed. Before beginning site work, investigate and verify the existence and location of underground utilities and other construction affecting the Work.
 - 1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping; and underground electrical services.
 - 2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.
- C. Acceptance of Conditions: Examine substrates, areas, and conditions, with the subcontractor responsible for installation or application present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.
 - 1. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
 - 2. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
 - 3. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
 - 4. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.6 ENVIRONMENTAL ASSESSMENTS:

- A. City Responsibilities: An Environmental Assessment and survey is performed by the NYC DDC and its findings are included in the Contract Documents. In accordance with the NYC Administrative Code Title 15 Chapter 1 an asbestos survey is required to be performed by an Asbestos Investigator certified by the NYC Department of Environmental Protection (DEP) to identify the presence of asbestos containing material (ACM) prior to any alteration, renovation or demolition activity. The findings of such survey are required for the submission of approvals and permits issued by the NYC Department of Buildings (DOB). When the findings indicate that asbestos containing material is present and will be disturbed during the alteration, renovation or demolition activity then abatement design specifications will be incorporated into the contract documents. The Contractor shall comply with all federal, state and local asbestos regulations affecting the work for this Contract.
- B. Contractor Responsibility: The Contractor shall comply with all federal, state and local environmental regulations, including without limitation USEPA and OSHA regulations which require the Contractor to assess if lead based paint will be disturbed during the work in order to protect his/her workers and the building occupants from migration of lead dust into the air. The Contractor shall comply with all federal, state and local environmental waste disposal regulation which may be required during the work. The Contractor is required to hire licensed abatement and disposal companies for the requisite work.

3.7 PREPARATION:

- A. Field Measurements: The Contractor shall verify all dimensions and conditions on the job so that all work will properly join the existing work.
- B. The Contractor, before commencing work, shall examine all adjoining work on which its work is in any way dependent on good workmanship in accordance to the intent of the Specifications and the Contract

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Drawings. The Contractor shall report to the Commissioner any condition that will prevent it from performing work that conforms to the required standard.

- C. Existing Utility Information: Furnish information to the Commissioner that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.
- D. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.

3.8 DEFERRED CONSTRUCTION:

- A. Where necessity for deferred construction is certified by the Commissioner, in order to permit the installation of any item or items of equipment required to be furnished and installed concurrent with the time allowed for doing and completing the work of the Contract, the Contractor shall defer construction work limited to adequate areas as approved by the Commissioner.
- B. The Contractor shall confer with the affected trade subcontractors and ascertain arrangements, time and facilities necessary to be made by the Contractor in order to execute the provisions specified herein.

3.9 INSTALLATION:

- A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
 - 1. Make vertical work plumb and make horizontal work level.
 - 2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
 - 3. Conceal pipes, ducts, and wiring in finished areas, unless otherwise indicated.
- B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.
- C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.
- D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.
- E. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.
- F. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other work and work of trade subcontractors to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.
- G. Anchors and Fasteners: Provide anchors and fasteners as required to anchor each component securely in place, accurately located and aligned with other portions of the Work.
 - 1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by the Design Consultant.
 - 2. Allow for building movement, including thermal expansion and contraction.
 - 3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.



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- H. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.
- I. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

3.10 PERMITS:

- A. The Contractor shall comply with all local, state and federal laws, rules and regulations affecting the Work of this Project, including, without limitation, (1) obtaining all necessary permits for the performance of the Work prior to commencement thereof, and (2) complying with all requirements for the disposal of demolition and/or construction debris, waste, etc., including disposal in City landfills. The Contractor shall be responsible for all costs in connection with such regulatory compliance, unless otherwise specified in the Contract.

3.11 TRANSPORTATION:

- A. Availability: It shall be the duty of the Contractor to determine the availability of transportation facilities and dockage for the use of its employees, equipment and material and the conditions under which such use will be permitted.
- B. Costs: If transportation facilities and dockage are available and are permitted to be used by the governmental agency having jurisdiction, the Contractor shall pay all necessary costs and expenses, and abide by all rules and regulations promulgated in connection therewith.
- C. Vehicles: With respect to the use of vehicles on highways and bridges, the Contractor's attention is directed to the limitations set forth in the Rules of the City of New York, Title 34, Chapter 4, Section 4-15.
- D. Continued Use: It is understood that the Commissioner makes no warranty as to the continued use by the Contractor of such facilities.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.12

3.12 SLEEVES AND HANGERS:

- A. Coordinate with Progress Schedule: The Contractor shall promptly furnish and install conduits, outlets, piping sleeves, boxes, inserts and all other materials and equipment that is to be built into the work in conformity with the requirements of the project.
- B. Cooperation of Subcontractors: All subcontractors shall fully cooperate with each other in connection with the performance of the above work as "cutting in" new work is neither contemplated nor will it be tolerated.
- C. Timeliness: In the event that timely delivery of sleeves and other materials cannot be made, and to avoid delay, the Contractor may arrange to have boxes or other forms set at the locations where the piping or other material is to pass through or into the slabs, walls or other work. Upon the subsequent installation of the sleeves or other material, the Contractor shall fill around them with materials as required by the Contract. The necessary expenditures incurred for the boxing out and filling in shall be borne by the Contractor.
- D. Inserts: The Contractor is to install strip inserts four (4) foot on center and perpendicular to beams in ceiling slabs of boiler, machine and mechanical equipment rooms. Inserts are to be installed for strippable concrete slabs only.



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REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.13

3.13 SLEEVE AND PENETRATION DRAWINGS:

- A. As soon as practicable after the commencement of work and when the order in which concrete for the first slabs, walls, etc. to be poured is determined, the Contractor shall submit to the DDC a sketch indicating the location and size of all penetrations for sleeves, ducts, etc. which will be required to accommodate the mechanical trades, in order to determine if such penetrations will materially weaken the project's structure. The sketch shall be stamped and returned if approved and/or comments will be transmitted. The Contractor shall continue to submit sketches as the pouring schedule and the concrete work progresses and, until approvals for the penetration sketches have been given. The Contractor shall not predicate its layout work on unapproved sketches.

3.14 CUTTING AND PATCHING:

- A. Responsibility: The Contractor shall do all cutting, patching and restoration required by its work, unless otherwise particularly specified in the Specifications.
- B. Restore Work: The Contractor shall restore any work damaged during the performance of the work.
- C. Competent Workers: All restoration work shall be done to the satisfaction of the Commissioner by competent workers skilled in the trade required by such restoration. If, in the judgment of the Commissioner, workers engaged in restoration work are incompetent, they shall be replaced immediately by competent workers.
- D. Structural Elements: Do not cut and patch structural elements without the prior approval, in writing, of the Resident Engineer.
- E. Operational Elements: Do not cut and patch operating elements and related components.
- F. Visual Requirements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in Commissioner's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.
- G. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during cutting and patching operations, by methods and with materials so as not to void existing warranties.
- H. Removals: The Contractor must remove from the premises all demolished materials of every nature or description resulting from cutting, patching and restoration work, in accordance with the requirements hereinafter stipulated under Sub-Section 3.17 herein and as further required in Section 01 74 19, CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.15

3.15 LOCATION OF PARTITIONS:

- A. Within three (3) weeks after the concrete slabs have been poured on each floor level, the Contractor shall immediately locate accurately all of the partitions, including the door openings, on the floor slabs in a manner approved by the Resident Engineer.



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3.16 FURNITURE AND EQUIPMENT:

- A. Responsibility: The Contractor is responsible for moving all loose furniture and/or equipment in all areas where the location of such furniture and/or equipment interferes with the proper performance of its work.
- B. Protection: All such furniture and/or equipment must be adequately protected with dust cloths and returned to their original locations when directed to do so by the Resident Engineer.

3.17 REMOVAL OF RUBBISH AND SURPLUS MATERIALS:

- A. Of the waste that is generated during demolition, as many of the waste materials as economically feasible, and as stated here, shall be reused, salvaged, or recycled. Waste disposal in landfills shall be minimized. Comply with requirements of Section 01 74 19, CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL.
- B. Rubbish: Rubbish shall not be thrown from the windows or other parts of the project. Mason's rubbish, dirt and other dust-producing material shall be wetted down periodically.
- C. Location: The Contractor shall clean Project site and work area daily and sweep up and deposit, at a location designated on each floor, all of its rubbish, debris and waste materials, as it accumulates and when directed by the Resident Engineer. Wood crating shall be broken up, neatly bundled, tied and stacked ready for removal and be deposited at a location designated on each floor.
 - 1. Comply with requirements in NYC Fire Department for removal of combustible waste materials and debris.
 - 2. Do not hold materials more than 7 days during normal weather or 3 days if the temperature is expected to rise above 80 degrees F (27 degrees C).
 - 3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
- D. Laborers: The Contractor shall be responsible for the removal of all rubbish, etc., from the site. The Contractor shall remove from the designated locations all piles of rubbish, debris, waste material and wood crating as they accumulate and when directed by the Resident Engineer, and shall remove them from the site. The Contractor shall employ and keep engaged for this purpose an adequate number of laborers.
- E. Surplus Materials: The Contractor shall remove from the site all surplus materials when there is no further use for same.
- F. Tools And Materials: At the conclusion of the work, all erection plant, tools, temporary structures and materials belonging to the Contractor shall be promptly removed.
- G. Waste Disposal: Burying or burning waste materials on-site will not be permitted. Washing waste materials down sewers or into waterways will not be permitted.

3.18 CLEANING:

- A. The Contractor shall thoroughly clean all equipment and materials furnished and installed and shall deliver such materials and equipment undamaged in a clean and new appearing condition up to date of Final Acceptance.
- B. Site: Maintain Project site free of waste materials and debris.
- C. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.
- D. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.

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- E. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration up to date of Final Acceptance.
- F. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration up to date of Final Acceptance.

3.19 SECURITY AND PROTECTION OF WORK SITE:

- A. Provide protection of installed work, including appropriate protective coverings and maintain conditions that ensure installed Work is without damage or deterioration up to date of Final Acceptance.
- B. Comply with manufacturer's written instructions for temperature and relative humidity.
- C. Secure and protect work and work site against damage, loss, injury, theft and/or vandalism.
- D. Maintain daily sign-in sheets of workers and visitors and make the sheets available to the Commissioner

3.20 MAINTENANCE OF SITE AND ADJOINING PROPERTY:

- A. The Contractor shall take over and maintain the Project site, after order to start work.
- B. The Contractor shall be responsible for the safety of the adjoining property, including sidewalks, paving, fences, sewers, water, gas, electric and other mains, pipes and conduits etc. until the date of Final Acceptance. The Contractor shall, at its own expense, except as otherwise specified, protect same and maintain them in at least as good a condition as that in which the Contractor finds them.
- C. All pavements, sidewalks, roads and approaches to fire hydrants shall be kept clear at all times, maintained and repaired to serviceable condition with materials to match existing.
- D. Provide and keep in good repair all bridging and decking necessary to maintain vehicular and pedestrian traffic.
- E. The Contractor shall also remove all snow and ice as it accumulates on the sidewalks within the Contract Limits Lines.

3.21 MAINTENANCE OF PROJECT SITE:

- A. The Contractor shall take over and maintain all project areas, after order to start work.
- B. Until the date of Final Acceptance, the Contractor shall be responsible for the safety of all project areas, including water, gas, electric and other mains and pipes and conduits and shall at the Contractor's own expense, except as otherwise specified, protect same and maintain them in at least as good condition as that in which the Contractor finds them.
- C. All pavements, sidewalks, roads and approaches to fire hydrants shall be kept clear at all times, maintained, and if damaged, repaired to serviceable conditions with materials to match existing.
- D. The Contractor shall keep the space for the Resident Engineer in a clean condition.

3.22 SAFETY PRECAUTIONS FOR CONTROL CIRCUITS:

- A. Control circuits, the failure of which will cause a hazard to life and property, shall comply with the New York City Dept. of Buildings, Bureau of Electrical Control requirements.

3.23 OBSTRUCTIONS IN DRAINAGE LINES:

- A. The Contractor shall be responsible for all obstructions occurring in all drainage lines, fittings and fixtures after the installations and cleaning of these drainage lines, fittings and fixtures as certified by the Resident Engineer. Roof drains shall be kept clear of any and all debris. Any stoppage shall be repaired immediately at the expense of the Contractor.

END OF SECTION 01 73 00

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SECTION 01 74 19 CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART I – GENERAL

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].

1.2 SUMMARY:

- A. This section includes administrative and procedural requirements for the management and disposal of construction waste and includes the following requirements:
1. Waste Management Goals
 2. Waste Management Plan
 3. Progress Reports
 4. Progress Meetings
 5. Management Plan Implementation
- B. This Section includes:
1. Definitions
 2. Waste Management Performance Requirements
 3. Reference Resources
 4. Submittals
 5. Quality Assurance
 6. Waste Plan Implementation
 7. Additional Demolition and Salvage Requirements
 8. Disposal

1.3 RELATED SECTIONS: Include without limitation the following:

- | | | |
|----|------------------|--|
| A. | Section 01 10 00 | SUMMARY |
| B. | Section 01 31 00 | PROJECT MANAGEMENT AND COORDINATION |
| C. | Section 01 32 00 | CONSTRUCTION PROGRESS DOCUMENTATION |
| D. | Section 01 73 00 | EXECUTION |
| E. | Section 01 77 00 | CLOSEOUT PROCEDURES |
| F. | Section 01 78 39 | CONSTRUCTION RECORD DOCUMENTS |
| G. | Section 01 81 13 | SUSTAINABLE DESIGN REQUIREMENTS FOR LEED BUILDINGS |

1.4 DEFINITIONS:

- A. Refer to Article 2 of the Contract for definition of terms, words and expressions used in the General Conditions not otherwise defined herein.
- B. Design Consultant: "Design Consultant" shall mean the entity responsible for providing design services for the Project, including without limitation, preparing the construction documents (drawings and specifications) and providing services in connection with such documents during construction. The entity serving as the "Design Consultant" may be a corporation, firm, partnership, joint venture, individual or combination thereof. Such entity may be either an employee(s) of the City or an entity engaged by the City to provide such services.
- C. Clean: Untreated and unpainted; not contaminated with oils, solvents, caulk or the like.



- D. Construction and Demolition Waste: Solid wastes typically including building materials, trash debris and rubble resulting from remodeling, repair and demolition operations. Hazardous materials and land clearing waste are not included.
- E. Diversion from Landfill: To remove, or have removed, from the site for recycling, reuse or salvage, material that might otherwise be sent to a landfill.
- F. Recyclable: The ability of a product or material to be recovered at the end of its life cycle and remanufactured into a new product.
- G. Recycle (recycling): To sort, separate, process, treat or reconstitute solid waste and other discarded materials for the purpose of redirecting such materials into the manufacture of useful products. Recycling does not include burning, incinerating or thermally destroying waste.
- H. Return: To give back reusable items or unused products to vendors.
- I. Reuse: To reuse excess or discarded construction material in some manner on the Project site.
- J. Salvage: To remove a waste material from the Project site for resale or reuse.
- K. Waste: Extra material or material that has reached the end of its useful life in its intended use. Waste includes salvageable, returnable, recyclable and reusable material.
- L. Waste Management Plan: A project-related plan for the collection, transportation and disposal of waste generated at the construction site. The purpose of the plan is to ultimately reduce the amount of material becoming landfill.

1.5 WASTE MANAGEMENT PERFORMANCE REQUIREMENTS:

- A. The City of New York has established that this project shall generate the least amount of waste possible and that processes that ensure the generation of as little waste as possible due to error, inaccurate planning, breakage, mishandling, contamination, or other factors shall be employed.
- B. Of the waste that is generated during demolition, as many of the waste materials as economically feasible, and as stated here, shall be reused, salvaged, or recycled. Waste disposal in landfills shall be minimized.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 1.5 C

- C. LEED CERTIFICATION: The City of New York will seek LEED (Leadership in Energy and Environmental Design) certification for this Project as indicated in the Addendum to the General Conditions from the U.S. Green Building Council. The documentation required here will be used for this purpose. LEED awards points for a variety of sustainable design measures on a project, one of which is the reuse and recycling of project waste.
- D. DIVERSION REQUIREMENTS. A minimum of 75% of total Project demolition waste (by weight) shall be diverted from landfill. The following waste categories are likely candidates to be included in the diversion plan as applicable for this project:
 - 1. Concrete
 - 2. Bricks
 - 3. Concrete masonry units (CMU)
 - 4. Asphalt
 - 5. Metals (e.g. banding, stud trim, ceiling grid, ductwork, piping, rebar, roofing, other trim, steel, iron, galvanized, stainless steel, aluminum, copper, zinc, brass, bronze)



6. Clean dimensional wood
 7. Carpet and pad
 8. Drywall
 9. Ceiling tiles
 10. Cardboard, paper and packaging
 11. Reuse items indicated on the Drawings and/or elsewhere in the Specification
- E. All fluorescent lamps, HID lamps and mercury-containing thermostats removed from the site shall be recycled.
- F. Recycling on the job, subject to the Commissioner's approval, is encouraged on the site itself, such as the crushing and reuse of removed sound concrete and stone. Include these categories in the Waste Management Plan.

1.6 REFERENCES, RESOURCES:

- A. DDC encourages its contractors to seek information from websites and experts in salvage or recycling in order to minimize disposal costs. There are numerous opportunities to sell, salvage, or to donate materials and accrue tax benefits (which would accrue to the contractor); also there are outlets that will pick up, and in some cases buy recyclable materials. Examples of information resources are as follows:
1. DDC's Sustainable Design web site:
http://www.nyc.gov/html/ddc/html/design/sustainable_home.shtml This includes a manual on Construction and Demolition Waste Reduction and Recycling, a Sample Waste Management Plan and sample C&D Waste Management log. A standard Construction and Demolition Waste Management Log form is included at the end of this section.
 2. Web Resources
(Information only; no warranty or endorsement is implied.)
www.wastematch.org Site of New York Waste Match, a materials exchange database and service
www.bignyc.org Site of Build It Green NYC, a non profit outlet for salvaged and surplus building materials
www.usgbc.org Site of the United States Green Building Council, with a description of the LEED certification process and requirements for C&D waste recycling
www.epa.gov/epawaste/index.htm Site of the U.S. Environmental Protection Agency that discusses construction and demolition waste issues, and links to other resources.

1.7 SUBMITTALS:

- A. The Contractor shall be responsible for the development and implementation of a Waste Management Plan for the Project. The Contractor's subcontractors shall assist in the development of that Plan, and collect and deposit their waste and recyclable materials in accordance with the approved Plan.
- B. DRAFT WASTE MANAGEMENT PLAN. Within fifteen (15) days after receipt of 'Notice to Proceed', or prior to any waste removal, whichever occurs sooner, the Contractor shall submit to the Commissioner a Draft Waste Management Plan. Include separate sections for demolition and construction waste. The Plan shall demonstrate how the performance goals will be met, and contain the following:



1. List of materials targeted for reuse, salvage, or recycling, and names, addresses, and phone numbers of receiving facilities/companies that will be purchasing or accepting each material.
 2. Description of onsite and/or offsite sorting methods for all materials to be removed from site.
 3. If mixed construction and demolition waste is to be sorted off-site, provide a letter from the processor stating the average percentage of mixed construction and demolition waste they recycle.
 4. Landfill information: Names of landfills where non-recyclable/reusable/salvageable waste will be disposed, and list of applicable tipping fees.
 5. Materials handling procedures: A description of the means by which any recyclable, salvaged, or reused materials will be protected from contamination, and collected in a manner that will meet the requirements for acceptance by the designated recycling processors.
 6. Transportation: A description of the means of transportation and destination for recycled materials.
 7. Meetings: Description of regular meetings to be held to address waste management.
 8. Sample spreadsheet and description of how the implementation of the plan will be documented on a monthly basis.
- C. **FINAL WASTE MANAGEMENT PLAN.** Within fifteen (15) days of Commissioner's approval of the Draft Plan, the Contractor shall submit a Final Waste Management Plan.
- D. **PROGRESS REPORTS.** The Contractor shall submit monthly a Waste Management Progress Report, containing the following information:
1. Project title, name of company completing report, and dates of period covered by the report
 2. Report on the disposal of all jobsite waste. A DDC C&D Waste Management Log form is available on the DDC Sustainable Design website and included at the end of this section. For each shipment of material removed from the site, provide the following:
 - a. Date and ticket number of removal
 - b. Identity of material hauler
 - c. Material Category
 - d. Total quantity of waste, in tones/cubic yards, by type
 - e. Quantity of waste salvaged, recycled and/or reused, by type
 - f. Total quantity of waste diverted from landfill (recycled, salvaged, reused) as a percentage of total waste
 - g. Recipient of each material type
 3. Provide monthly and cumulative project totals of waste, quantity diverted, and percentage diverted.
 4. Note that the unit of measure may be either tons or cubic yards, but must be consistent for all shipments and all materials throughout the project. Reports with inconsistent or mixed units will not be reviewed and will be returned for re-submission.
 5. Include legible copies of on-site logs, weight tickets and receipts. Receipts shall be from charitable organizations, recycling and/or disposal site operators who can legally accept the materials for the purpose of reuse, recycling or disposal. Contractor shall save such original documents for the life of the project plus seven (7) years.
- E. **LEED Submittal:** For LEED designated projects submit LEED Letter Template for Credit 2.2, signed by the Contractor, tabulating total waste material, quantities diverted and means by which it is diverted, and statement that requirements for the credit have been met.
- F. **Refrigerant Recovery.** Submit Qualification data for Refrigerant recovery technician. Statement of refrigerant recovery, signed by the refrigerant recovery technician responsible for recovering refrigerant



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stating that all refrigerant that was present was recovered and that recovery was performed according to EPA regulations. Include name and address of technician and date refrigerant was recovered.

1.8 QUALITY ASSURANCE:

- A. The Contractor shall designate a Waste Management Coordinator, to ensure compliance with this section. Coordinator shall be present at Project site full time for the duration of the project.
- B. Refrigerant Recovery Technician Qualifications: Certified by EPA-approved certification program.
- C. Regulatory Requirements: Comply with hauling and disposal regulations of authorities having jurisdiction.
- D. Waste management plans, documentation and implementation shall be discussed at the following meetings:
 - 1. Pre-demolition kick-off meeting
 - 2. Pre-construction kick-off meeting
 - 3. Regular job-site meetings
 - 4. Contractor toolbox meetings

PART II – PRODUCTS (Not Used)

PART III – EXECUTION

3.1 WASTE PLAN IMPLEMENTATION:

- A. The Contractor shall implement the Waste Management Plan, coordinate the Plan with all affected trades, and designate one individual as the Construction Waste Management Representative, who will be responsible for communicating the progress of the Plan with the Commissioner on a regular basis, and for assembling the required LEED documentation.
- B. The Contractor shall be responsible for the provision of containers and the removal of all waste, non-returned surplus materials, and rubbish from the site in accordance with the approved Waste Management Plan. The Contractor shall oversee and document the results of the Plan. Monies received for salvaged materials shall remain with the Contractor, except the monies for those items specifically identified elsewhere in the specifications, or indicated on the drawings as belonging to others.
- C. Responsibilities of Subcontractors: Each subcontractor shall be responsible for collecting its waste, non-returned surplus materials, and rubbish, in accordance with the Waste Management Plan.
- D. Distribution. The Contractor shall distribute copies of the Waste Management Plan to each Subcontractor, Resident Engineer, Construction Manager, and Commissioner.
- E. Instruction: The Contractor shall provide on-site instruction of proper waste management procedures to be used by all parties in appropriate stages of the Project.
- F. Procedures. Conduct waste management operations to ensure minimum interference with site vegetation, roads, streets, walks and other adjacent occupied and used facilities.
 - 1. Collect co-mingled waste and/or separate all recyclable waste in accordance with the Plan. Specific areas on the Project site are to be designated, and appropriate containers and bins clearly marked with acceptable and unacceptable materials.
 - 2. Inspect containers and bins for contamination and remove contaminated materials if found.



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3. Comply with the General Conditions for controlling dust and dirt, environmental protection, and noise control.

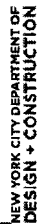
3.2 ADDITIONAL DEMOLITION AND SALVAGE REQUIREMENTS:

- A. Demolition and salvage of additional items indicated in other sections of the Project Specifications require special attention as part of the overall 75 % diversion from landfill. Specific requirements for special attention are designated in other sections of the Project Specifications.

3.3 DISPOSAL:

- A. General. Except for items or material to be salvaged, recycled or otherwise reused, remove waste material from the Project site and legally dispose of them in a manner acceptable to authorities having jurisdiction.
 1. Except as otherwise specified, do not allow waste materials that are to be disposed of to accumulate on site.
 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
- B. Burning. Do not burn waste materials
- C. Disposal. Transport waste materials off Project Site and legally dispose of them.

END OF SECTION 01 74 19



CONSTRUCTION AND DEMOLITION WASTE MANAGEMENT LOG

Project I.D.:

Prepared by: _____

For Month:

Haul Date	Ticket #	Hauling Company	*Material Category ²	Material Quantity (tons or cubic yards) ¹				*Material Recipient
				*Total Weight	Excluded Material ³	*Diverted Material ⁴	*Landfilled Material	
Monthly Totals				*Total		*Diverted	*Landfilled	
% Diverted this Month*								

[illegible]

1. Volume (cubic yards) may be used instead of weight if used for ALL amounts and ALL materials.

1. volume (cubic yards) may be used instead of weight if used for ALL amounts and ALL materials.
2. Includes concrete; bricks; concrete masonry units (CMU); asphalt; metals; clean dimensional wood; carpet and pad; drywall; ceiling tiles; cardboard, paper, and packaging; and any other reuse items indicated on the Drawings and/or elsewhere in the Specification.
3. Excluded material includes soil or land clearing debris.

3. Excluded material includes soil or land cleaning debris.
4. Diverted material includes recycled and reused material diverted from landfill. Recycled material is reprocessed into new products. Reused material is reclaimed, salvaged or otherwise used in its original form, either on-site or off-site.

* These items must be listed in order to receive LEED credit.



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CONSTRUCTION AND DEMOLITION WASTE MANAGEMENT LOG

No Text



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SECTION 01 77 00 CLOSEOUT PROCEDURES

PART I – GENERAL

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].

1.2 SUMMARY:

- A. This Section includes administrative and general procedural requirements for Closeout Procedures, including without limitation the following:
1. Definitions
 2. Substantial Completion
 3. Final Acceptance
 4. Warranties
 5. Final Cleaning
 6. Repair of the Work
- B. LEED: Refer to the Addendum to identify whether this project is designed to comply with a Certification Level according to the U.S. Green Building Council's Leadership in Energy & Environmental Design (LEED) Rating System, as specified in Section 01 81 13, "SUSTAINABLE DESIGN REQUIREMENTS FOR LEED BUILDINGS."
- C. COMMISSIONING: Refer to the Addendum to identify whether this project will be commissioned by an independent third party under separate contract with the City of New York. Commissioning shall be in accordance with ASHRAE and USGBC LEED- NC procedures, as described in Section 01 91 13, GENERAL COMMISSIONING REQUIREMENTS. The Contractor shall cooperate with the commissioning agent and provide whatever assistance is required.

1.3 RELATED SECTIONS: include without limitation the following:

- A. Section 01 10 00 SUMMARY
B. Section 01 33 00 SUBMITTAL PROCEDURES
C. Section 01 74 19 CONSTRUCTION WASTE MANAGEMENT & DISPOSAL
D. Section 01 78 39 CONTRACT RECORD DOCUMENTS
E. Section 01 79 00 DEMONSTRATION AND OWNER'S PRE-ACCEPTANCE ORIENTATION

1.4 DEFINITIONS:

- A. Refer to Article 2 of the Contract for definition of terms, words and expressions used in the General Conditions not otherwise defined herein.
- B. Design Consultant: "Design Consultant" shall mean the entity responsible for providing design services for the Project, including without limitation, preparing the construction documents (drawings and specifications) and providing services in connection with such documents during construction. The entity serving as the "Design Consultant" may be a corporation, firm, partnership, joint venture, individual or



combination thereof. Such entity may be either an employee(s) of the City or an entity engaged by the City to provide such services.

- C. Substantial Completion: shall mean the written determination by the Commissioner that the Work required under the Contract is substantially, but not entirely, complete.
- D. Final Acceptance: shall mean final written acceptance of all the Work by the Commissioner, a copy of which shall be sent to the Contractor.

1.5 SUBSTANTIAL COMPLETION:

- A. Preliminary Procedures: Before requesting inspection to determine the date of Substantial Completion, the Contractor shall complete and supply all items required by the contract specifications, General Conditions, Addendum to the General Conditions, change orders or other directives from the Commissioner's representatives. The required items will include all contract requirements for substantial completion, including but not limited to items related to releases, regulatory approvals, warranties and guarantees, record documents, testing, demonstration and orientation, final clean up and repairs, and all specific checklist of items by the Resident Engineer. (See Attachment "A" at the end of this section for sample requirements for Substantial Completion).
- B. Prepare and submit a list to the Resident Engineer of incomplete items, the value of incomplete construction, and reasons the work is not complete.
- C. Inspection: The Contractor shall submit to the Resident Engineer a written request for inspection for Substantial Completion. Within ten (10) days of receipt of the request, the Resident Engineer will either proceed with inspection or notify Contractor of unfulfilled requirements. The Resident Engineer may request the services, as required, of the Design Consultant, Client Agency Representative and/or other entities having involvement with the Work to assist in the inspection of the Work. If the Resident Engineer makes a determination that the work is substantially complete and approves the Final Punch List and the date for Final Acceptance, he/she will so advise the Commissioner and recommend issuance of the Certificate of Substantial Completion. If the Resident Engineer determines that the work is not substantially complete, he/she will notify the Contractor of those items that must be completed or corrected before the Certificate of Substantial Completion will be issued.
 - 1 Re-inspection: Contractor shall request re-inspection when the Work identified in previous inspections as incomplete is completed or corrected.
 - 2 Results of completed inspection will form the basis of requirements for Final Acceptance.

1.6 FINAL ACCEPTANCE:

- A. Preliminary Procedures: Before requesting final inspection for Final Acceptance of the Work, the Contractor shall complete the following. (Note that the following are to be completed, submitted as appropriate, and approved by the Commissioner, as applicable, prior to the final inspection and are not to be submitted for approval or otherwise at the final inspection unless specifically indicated). List exceptions in the request.
 - 1. Verify that all required submittals have been provided to the Commissioner including but not limited to the following:
 - a. Manufacturer's cleaning instructions
 - b. Posted instructions
 - c. As-built Record Documents (Drawings, specifications, and product data) as described in Section 01 78 39, CONTRACT RECORD DOCUMENTS, incorporating any changes required by the Commissioner as a result of the review of the submission prior to the pre-final inspection.
 - d. Operation and Maintenance Manuals, including Preventive Maintenance, Special Tools, Repair Requirements, Parts List, Spare Parts List, and Operating Instructions.



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- e. Completion of required Demonstration and Orientation, as applicable, of designated personnel in operation and maintenance of systems, sub-systems and equipment.
 - f. Applicable LEED Building submittals as described in Section 01 81 13, SUSTAINABLE DESIGN REQUIREMENTS FOR LEED BUILDINGS.
 - g. Construction progress photographs as described in Section 01 32 33, PHOTOGRAPHIC DOCUMENTATION.
- 2. Submit a certified copy of the final approved Punch List of items to be completed or corrected. The certified copy of the Punch List shall state that each item has been completed or otherwise resolved for acceptance, and shall be endorsed and dated by the Contractor.
 - 3. Submit pest-control final inspection report and survey as required in Section 01 50 00, TEMPORARY FACILITIES AND CONTROLS.
 - 4. Submit record documents and similar final record information.
 - 5. Deliver tools, spare parts, extra stock and similar items.
 - 6. Complete final clean-up requirements including touch-up painting of marred surfaces.
 - 7. Submit final meter readings for utilities, as applicable, a measured record of stored fuel, and similar data as of the date when the City took possession of and assumed responsibility for corresponding elements of the work.
- B. Final Inspection: The Contractor shall submit to the Resident Engineer a written request for inspection for Final Acceptance of the Work. Within ten (10) days of receipt of the request, the Resident Engineer will either proceed with inspection or notify the Contractor of unfulfilled requirements. The Resident Engineer may request the services, as required, of the Design Consultant, Client Agency Representative and/or other entities having involvement with the Work to assist in the inspection of the Work. If the Resident Engineer finds that all items on the Final Approved Punch List are complete and no further work remains to be done, he/she will so advise the Commissioner and recommend the issuance of the determination of Final Acceptance. If the Resident Engineer determines that the work is not complete, he/she will notify the Contractor of those items that must be completed or corrected before the determination of Final Acceptance will be issued.
- C. Final Acceptance: The Work will be accepted as final and complete as of the date of the Resident Engineer's inspection if, upon such inspection, the Resident Engineer finds that all items on the Punch List are complete and no further Work remains to be done. The Commissioner will then issue a written determination of Final Acceptance.

1.7 WARRANTIES:

- A. The items of materials and/or equipment for which manufacturer warranties are required are listed in Schedule B of the Addendum. For each item of material and/or equipment listed in Schedule B, the Contractor shall obtain a written warranty from the manufacturer. Such warranty shall provide that the material or equipment is free from defects for the period set forth in Schedule B and will be replaced or repaired within such specified period. The contractor shall deliver all required warranties to the Commissioner.
- B. Unless indicated otherwise Warranties are to take effect on the date of Substantial Completion.
- C. Submittal Time: Submit written Warranties on request of the Commissioner for designated portions of the Work where commencement of Warranties other than date of Substantial Completion is indicated.
- D. Partial Occupancy: Submit properly executed Warranties to the Commissioner within 15 days of completion of designated portions of the Work that are completed and occupied or used by the City.
- E. Organize the Warranty documents into an orderly sequence based on the Project Specification Divisions and Section Numbers.



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1. Bind Warranties in heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch paper.
 2. Identify each binder on the front and spine with the typed or printed title "WARRANTIES;" name and location of Project; Capitol Budget Project Number (FMS ID); and Contractor's and applicable subcontractor's name and address.
 3. Provide heavy paper dividers with plastic-covered tabs for each separate Warranty. Mark tab to identify the product or installation.
 4. Provide a typed description of each product or installation being warranted, including the name of the product, and the name, address, and telephone number of the Installer.
- F. When warranted materials and/or equipment require operation and maintenance manuals, provide additional copies of each required Warranty in each required manual. Refer to Section 01 78 39, CONTRACT RECORD DOCUMENTS, for requirements of Operation and Maintenance Manuals.

PART II – PRODUCTS

2.1 MATERIALS:

- A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

PART III – EXECUTION

3.1 FINAL CLEANING:

- A. General: Provide final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.
1. Complete the following cleaning operations, as applicable, before requesting inspection for Final Acceptance of the Work for entire Project or for a portion of Project:
 - a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
 - b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
 - c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
 - d. Remove tools, construction equipment, machinery, and surplus material from Project site.
 - e. Remove snow and ice to provide safe access to building.
 - f. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
 - g. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
 - h. Sweep concrete floors broom clean in unoccupied spaces.
 - i. Vacuum carpet and similar soft surfaces, removing debris and excess nap; shampoo if visible soil or stains remain.



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- j. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials. Polish mirrors and glass, taking care not to scratch surfaces.
 - k. Remove labels that are not permanent.
 - l. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.
 - 1) Do not paint over "UL" and similar labels, including mechanical and electrical nameplates.
 - m. Wipe surfaces of mechanical and electrical equipment and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
 - n. Replace parts subject to unusual operating conditions.
 - o. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
 - p. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
 - q. Clean ducts, blowers, and coils if units were operated without filters during construction.
 - r. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency. Replace burned-out bulbs, and those noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.
 - s. Leave Project clean and ready for occupancy.
 - t. Construction Waste Disposal: Comply with waste disposal requirements in Section 01 74 19, CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL.
- C. Pest Control: Engage an experienced, licensed exterminator to make a final inspection and rid Project of rodents, insects, and other pests, as required in Section 01 50 00, TEMPORARY FACILITIES, SERVICES AND CONTROLS. Prepare and submit a Pest Control report to the Commissioner.
- D. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on City's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from Project site and dispose of lawfully.

3.2 REPAIR OF THE WORK:

- A. Subject to the terms of the Contract the Contractor shall complete repair and restoration operations before requesting inspection for determination of Substantial Completion.
- B. Contractor shall repair or remove and replace defective construction. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment. Where damaged or worn items cannot be repaired or restored, provide replacements. Remove and replace operating components that cannot be repaired. Restore damaged construction and permanent facilities used during construction to specified condition.
 - 1. Remove and replace chipped, scratched, and broken glass, reflective surfaces, and other damaged transparent materials.
 - 2. Touch up and otherwise repair and restore marred or exposed finishes and surfaces. Replace finishes and surfaces that already show evidence of repair or restoration.
 - a. Do not paint over "UL" and other required labels and identification, including mechanical and electrical nameplates. Remove paint applied to required labels and identification.

CLOSEOUT PROCEDURES

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3. Replace parts subject to operating conditions during construction that may impede operation or reduce longevity.
4. Replace burned-out bulbs, bulbs noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.

END OF SECTION 01 77 00



SECTION 01 77 00

ATTACHMENT 'A'

The following list is a general sample of Substantial Completion requirements, including but not limited to:

1. Prepare and submit a list to the Resident Engineer, of incomplete items, the value of incomplete construction, and reasons the work is not complete.
2. Obtain and submit any necessary releases enabling the City unrestricted use of the project and access to services and utilities.
3. Regulatory Approvals: Submit all required documentation from applicable Governing Authorities, including, but not limited to, Department of Buildings (DoB); Department of Transportation (DoT); Department of Environmental Protection (DEP); Fire Department (FDNY); etc. Documentation to include, but not limited to, the following:
 - a. Building Permits, Applications and Sign-offs.
 - b. Permits and Sign-off for construction fences; sidewalk bridges; scaffolds, cranes and derricks; utilities; etc.
 - c. Certificates of Inspections and Sign-offs.
 - d. Required Certificates and Use Permits.
 - e. Certificate of Occupancy (C.O.), Temporary Certificate of Occupancy (T.C.O.) or Letter of Completion as applicable.
4. Submit specific warranties required by the specifications, final certifications, and similar documents.
5. Prepare and submit Record Documents as described in Section 01 78 39, CONTRACT RECORD DOCUMENTS, including but not limited to; approved documentation from Governing Authorities; as-built record drawings and specifications; product data; operation and maintenance manuals; Final Completion construction photographs; damage or settlement surveys; final property surveys; and similar final record information. The Resident Engineer will review the submission and provide appropriate comments. If comments are significant the initial submission will be returned to the Contractor for correction and re-submission incorporating the comments prior to the Final Inspection.
6. Record Waste Management Progress Report: Submit C&D Waste Management logs, with legible copies of weight tickets and receipts required in accordance with Section 01 74 19, CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL.
7. If applicable submit LEED Letter Template in accordance with the requirements of Section 01 81 13, SUSTAINABLE DESIGN REQUIREMENTS FOR LEED BUILDINGS.
8. Schedule applicable Demonstration and Orientation required in other Sections of the Project Specifications and as described in Section 01 79 00, DEMONSTRATION AND OWNER'S PRE-ACCEPTANCE ORIENTATION.
9. Deliver tools, spare parts, extra materials, and similar items to location designated by Resident Engineer. Label with manufacturer's name and model number where applicable.
10. Make final changeover of permanent locks and deliver keys to the Resident Engineer. Advise Commissioner of changeover in security provisions.
11. Complete startup testing of systems as applicable.
12. Submit approved test/adjust/balance records.
13. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements as directed by the Resident Engineer.
14. If applicable complete Commissioning requirements as defined in Section 01 91 13, GENERAL COMMISSIONING REQUIREMENTS.
15. Complete final cleaning requirements, including touchup painting.
16. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.



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SECTION 01 78 39 CONTRACT RECORD DOCUMENTS

PART I – GENERAL

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].

1.2 SUMMARY:

- A. This Section includes administrative and general procedural requirements for Contract Record Documents, including:
1. As-built Contract Record Drawings.
 2. As-built marked-up copies of Record Specifications, addenda and Change Orders.
 3. As-built marked-up Product Data
 4. Record Samples
 5. Construction Record Photographs
 6. Operating and Maintenance Manuals
 7. Final Site Survey
 8. Guarantees and Warranties
 9. Waste Disposal Documentation
 10. LEED Materials and Matrix
 11. Miscellaneous Record Submittals
- B. The Department of Design and Construction, at the start of construction (kick-off meeting), will furnish to the Contractor at no cost a complete set of Contract Drawings Mylars (reproducible) pertaining to the work to be performed under the Contract. It is the responsibility of the Contractor to modify the Contract Drawings to indicate all changes and corrections, if any, occurring in the work as actually installed. The Contractor is required to furnish all other Mylar (reproducible) drawings, if necessary, such as Addenda Drawings and Supplementary Drawings as may be necessary to indicate all work in detail as actually completed. All professional seals must be blocked out. Title box complete with project title and Design Consultants' names will remain.
- C. Maintenance of Documents and Samples: The Contractor shall maintain, during the progress of the work, an accurate record of the work as actually installed, on Contract Record Drawings, on Mylar (reproducible), in ink. Store record documents and samples in the field office apart from the Contract Documents used for construction. Do not use Project Record Documents for construction purposes. Maintain record documents in good order and in a clean, dry, legible condition. Make documents and samples available at all times for the Resident Engineer's inspections.

The Contractor's attention is particularly directed to the necessity of keeping accurate records of all subsurface and concealed work, so that the Contract Record Drawings contain this information in exact detail and location. Contract Record Drawings shall also show all connections, valves, gates, switches, cut-outs and similar operating equipment.

For projects designated to achieve a LEED rating the Contractor shall receive a copy of the project's LEED scorecard for the purpose of monitoring compliance with the target objectives and to facilitate coordination with the LEED Consultant. The Contractor shall receive periodic updates of this scorecard,



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and is required to submit the final version of the Scorecard at Substantial Completion with other project Record Documents.

1.3 RELATED SECTIONS: include without limitation the following:

- | | | |
|----|------------------|-------------------------------------|
| A. | Section 01 10 00 | SUMMARY |
| B. | Section 01 32 00 | CONSTRUCTION PROGRESS DOCUMENTATION |
| C. | Section 01 32 33 | PHOTOGRAPHIC DOCUMENTATION |
| D. | Section 01 33 00 | SUBMITTAL PROCEDURES |
| E. | Section 01 77 00 | PROJECT CLOSEOUT PROCEDURES |

1.4 DEFINITIONS:

- A. Refer to Article 2 of the Contract for definition of terms, words and expressions used in the General Conditions not otherwise defined herein.
- B. Design Consultant: "Design Consultant" shall mean the entity responsible for providing design services for the Project, including without limitation, preparing the construction documents (drawings and specifications) and providing services in connection with such documents during construction. The entity serving as the "Design Consultant" may be a corporation, firm, partnership, joint venture, individual or combination thereof. Such entity may be either an employee(s) of the City or an entity engaged by the City to provide such services.

1.5 SUBMITTALS:

- A. As-Built Contract Record Drawings: Comply with the following:
1. Progress Submission: As directed by the Resident Engineer, submit progress As-Built Contract Record Drawings at the 50% Construction Completion stage.
 2. Final Submission: Before substantial completion payment, the Contractor shall furnish to the Commissioner one (1) complete set of marked-up Mylar (reproducible) As-Built Contract Record Drawings, in ink indicating all of the work and locations as actually installed, plus one (1) set of paper prints which will be furnished to the sponsoring agency by DDC.
 3. As-Built Contract Record Drawings shall be of the same size as that of the Contract Drawings, with a one (1) inch margin on three (3) sides and a two (2) inch margin on the left side for binding.
 4. Each As-Built Contract Record Drawing shall bear the legend "AS-BUILT CONTRACT RECORD DRAWING" in heavy block lettering, one half (1/2) inch high, and contain the following data:

AS-BUILT CONTRACT RECORD DRAWING

Contractor's Name	_____
Contractor's Address	_____
Subcontractor's Name (where applicable)	_____
Subcontractor's Address	_____
Made by:	Date _____
Checked by:	Date _____

Commissioner's Representatives	
(Resident Engineer)	DDC
(Plumbing Inspector)	DDC
(Heating & Ventilating Inspector)	DDC
(Electrical Inspector)	DDC



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5. Record Drawing Title Sheet: The Contractor shall prepare a title sheet, the same size as the Contract Record Drawings, which shall contain the following:
 - a. Heading:
The City of New York
Department of Design and Construction
Division of Public Buildings
 - b. Capital Budget Project Number (FMS ID)
 - c. Name and Location of Project
 - d. Contractor's Name and Address
 - e. Subcontractor's Name and Address (where applicable)
 - f. Record of changes (a caption description of work affected, and the date and number of Change Order or other authorization)
 - g. List of Record Drawings
- B. Record Specifications, Addenda and Change Order: Submit to the Commissioner two (2) copies each of marked-up Record Specifications, Addenda and Change Orders.
- C. Record Product Data: Submit to the Commissioner two (2) sets of Record Product Data.
- D. Record Construction Photographs: Submit to the Commissioner final as-built construction photographs and negatives of the completed work as described in Section 01 32 33, PHOTOGRAPHIC DOCUMENTATION.
- E. Operating and Maintenance Manuals:
 1. Submit three (3) copies each of preliminary manuals to the Resident Engineer for review and approval. The Contractor shall make such corrections, changes and/or additions to the manual until deemed satisfactory by the Resident Engineer. Deliver three (3) copies of the final approved manuals to the Resident Engineer for distribution.
 2. Commissioning: Comply with the requirements of Section 01 91 13, GENERAL COMMISSIONING REQUIREMENTS, as well as the requirements set forth in sections of the Project Specifications, for projects designated for Commissioning. Submit four (4) copies each of data designated to be included in the Commissioning Operation and Maintenance Manual to the Resident Engineer. The Resident Engineer will forward such data to the Commissioning Authority/Agent (CxA) for review and comment. The Contractor shall make such corrections, changes and/or additions to the data until deemed satisfactory and deliver four (4) copies of the final data to the Resident Engineer for use by the Commissioning Authority/Agent (CxA) to prepare the Commissioning Operation and Maintenance Manual.
 - a. Non-Commissioning Data: All remaining data not designated for Commissioning and required as part of Maintenance and Operation Manual shall be prepared and assembled in accordance with the requirements of this section for Operating and Maintenance Manuals.
- F. Final Site Survey: Submit Final Site Survey as described in Section 01 73 00, EXECUTION, in quantities requested by the Commissioner, signed and sealed by a Land Surveyor licensed in the State of New York.
- G. Guarantees and Warranties.
- H. Waste Disposal Documents and Miscellaneous Record Documents.



PART II – PRODUCTS

2.1 CONTRACT RECORD DRAWINGS:

- A. Record Prints: The Contractor shall maintain one set of blue- or black-line white prints as applicable of the Contract Drawings and Shop Drawings. If applicable, the Record Contract Drawings and Shop Drawings shall incorporate the arrangement of the work based on the accepted Master Coordination Drawing(s) as described in Section 01 33 00, SUBMITTAL PROCEDURES.
1. Preparation: The Contractor shall mark Record Prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to prepare the marked-up Record Prints.
 - a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
 - b. Accurately record information in an understandable drawing technique.
 - c. Record data as soon as possible after obtaining it. Record and check the markup before enclosing concealed installations.
 2. Change Orders: All changes from Contract Drawings shall be distinctly encircled and identified by Change Order number correlating to changes listed on the "Title Sheet." The Contractor shall show within the encircled areas the work as actually installed.
- B. Content: Types of items requiring marking include, but are not limited to, the following:
1. Dimensional changes to Drawings.
 2. Revisions to details shown on Drawings.
 3. Depths of foundations below first floor.
 4. Locations and depths of underground utilities.
 5. Revisions to routing of piping and conduits.
 6. Revisions to electrical circuitry.
 7. Actual equipment locations.
 8. Duct size and routing.
 9. Locations of concealed internal utilities.
 10. Changes made by Change Order
 11. Changes made following Commissioner's written orders.
 12. Details not on the original Contract Drawings.
 13. Field records for variable and concealed conditions.
 14. Record information on the Work that is shown only schematically.
- C. Progress Record Mylar's (reproducible): As directed by the Resident Engineer at 50% construction completion, review marked-up Record Prints with the Resident Engineer and the Design Consulting. When directed by the Resident Engineer transfer progress mark-ups to a full set of Mylar's (reproducible) and submit one blue line or black line record copy to the Resident Engineer. The marked-up Mylar's (reproducible) shall be retained by the contractor for completion of mark-up and final submission.
- D. Final Contract Record Mylar's (reproducible): Immediately before final inspection for Certificate of Substantial Completion, review marked-up Record Prints with the Resident Engineer and the Design Consulting. When authorized, complete mark-up of a full set of corrected Mylar's (reproducible) of the Contract Drawings.
1. Incorporate changes and additional information previously marked on Record Prints. Erase, redraw, and add details and notations where applicable.
 2. Refer instances of uncertainty to Resident Engineer for resolution.
 3. Print the As-Built Contract Drawings and Shop Drawings for use as Record Transparencies as described in Sub-Section 1.5.



2.2 RECORD SPECIFICATIONS, ADDENDA AND CHANGE ORDERS:

- A. Preparation: Mark Specifications to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.
1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
 3. Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made
 4. For each principal product, indicate whether Record Product Data has been submitted in operation and maintenance manuals instead of submitted as Record Product Data.
 5. Note related Change Orders and Record Drawings where applicable.
 6. Upon completion of mark-up, submit two (2) complete copies of the marked-up Record Specifications to the Commissioner.

2.3 RECORD PRODUCT DATA:

- A. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.
1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
 3. If possible, a Change Order proposal should include resubmitting updated Product Data. This eliminates the need to mark up the previous submittal.
 4. Note related Change Orders and Record Drawings where applicable.
 5. Upon completion of mark-up submit to the Commissioner two (2) sets of the marked-up Record Product Data.
 6. Where Record Product Data is required as part of Maintenance Manuals, submit marked-up Product Data as an insert in the manual instead of submittal as record Product Data.

2.4 RECORD SAMPLE SUBMITTAL:

- A. Prior to the date of Substantial Completion, the Contractor shall meet with the Resident Engineer at the site to determine which of the Samples maintained during the construction period shall be transmitted to the Commissioner for record purposes.
- B. Comply with the Resident Engineer's instructions for packaging, identification marking and delivery to DDC. Dispose of other samples as specified for disposal of surplus and waste material.

2.5 OPERATING AND MAINTENANCE MANUALS:

- A. The Contractor shall provide preliminary and final versions of Operating and Maintenance Manuals required for those systems, equipment and materials listed in other Sections of the Project Specifications.
- B. Format: Prepare and assemble Operation and Maintenance Manuals in heavy-duty, 3-ring, hardback loose leaf binders in the form of an instructional manual. All binders for each discipline shall be the same color. When multiple binders are used, correlate data into related consistent groupings. Binder front shall containing permanently attached labels displaying the following:



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1. Heading:
The City of New York
Department of Design and Construction
Division of Public Buildings
 2. Capital Budget Project Number (FMS ID)
 3. Name and Location of Project
 4. Contractor's name and Address
 5. Subcontractor's Name and Address (where applicable)
 6. Dates of the work covered by the contents of the Project Manual.
 7. Binder spine shall display Project Number (FMS ID) and date of completion.
- C. Organization: Include a section in the directory for each of the following:
1. List of documents
 2. List of systems
 3. List of equipment
 4. Table of contents
- D. Arrange content by systems under Specification Section numbers and sequence of Table of Contents of the Project manual. Provide tabbed flyleaf for each separate product, equipment and/or system/subsystem with typed description of product and major component parts of equipment.
- E. Safety warnings or cautions shall be visibly highlighted within each maintenance procedure. Use of such highlights shall be limited to only critical items and shall not be used in an excessive manner which would reduce their effectiveness.
- F. For each product or system, list names, addresses and telephone numbers of Subcontractors and Suppliers, including local source of supplies and replacement parts. Vendors and Supplier listings are to include names, addresses and telephone numbers, including nearest field service telephone numbers.
- G. Where contents of the manual include any manufacturer's catalog pages, clearly indicate the precise items and options included in the installation and delete all manufacturers' data regarding products not included in the installation.
- H. All material within manuals shall be new. Copies used for prior submittals or used in construction shall not be used.
- I. Submit preliminary and final manual editions to the Commissioner according to the approved progress schedule.
- J. Manuals shall present all technical material to the greatest extent possible, with respect to text, tabular matter and illustrations. Illustrations shall preferably consist of line drawings. All applicable drawings shall be included. If available, color photograph prints may be included.
- K. Preliminary manual editions shall be as technically complete as the final manual edition. All illustrations shall be in final forms.
- L. Final manual editions shall be technically accurate and complete and shall represent all "as-built" systems, pieces of equipment, or materials, which have been accepted by the Commissioner. All illustrations, text and tabular material shall be in final form. All shop drawings shall be included as specified in individual Specification Sections.
- M. Building products, applied materials, and finishes: Include product data, with catalog number, size, composition, and color texture designations. Where applicable, provide information for re-ordering custom manufactured products.
- N. Instructions for care and maintenance: Include manufacturers' recommendations for cleaning agents and methods, and recommended schedule for cleaning and maintenance.



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- O. Moisture Protection and Weather Exposed Products: Include product data listing applicable reference standards, chemical compositions, and details of installation. Provide recommendations for inspections, maintenance, and repair.
- P. Additional Requirements: Specified in individual Specification Sections.

2.6 DEMONSTRATION AND ORIENTATION DVD:

- A. Non-Commissioned Projects: The Contractor shall submit final version of applicable Demonstration and Training DVD recordings in compliance with Section 01 79 00, DEMONSTRATION AND OWNER'S PRE-ACCEPTANCE ORIENTATION.

2.7 GUARANTEES AND WARRANTIES:

- A. SCHEDULE B – Requirements for guarantees and warranties for the Project are set forth in Schedule B, which is included as part of the Addendum.
- B. FORM – For all guarantee requirements set forth in Schedule B, the Contractor shall provide a written guaranty, in the form set forth herein.
- C. Submit fully executed and signed manufacturers' Warranties as listed in the Project Specifications and outlined in Schedule B of the Addendum. Refer to Section 01 77 00, CLOSEOUT PROCEDURES for submittal requirements.



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GUARANTY

DDC PROJECT # _____

PROJECT DESCRIPTION _____

CONTRACT # _____

SPECIFICATION SECTION # AND TITLE _____

GUARANTY TO BE IN EFFECT FROM _____

TO _____

The Contractor hereby guarantees that the work specified under the above section of the aforesaid Contract will be free from defects of material and/or workmanship, for the period indicated above.

The Contractor also guarantees that it will promptly repair, restore, rebuild or replace whichever may be deemed necessary by the City, any or all defective material or workmanship of the aforementioned section, that may appear within the guaranty period and any finished work to which damage may occur because of such defects, to the satisfaction of the City and without any cost or expense to the City.

The Contractor hereby agrees to pay to the City the cost of the repairs or replacements should the City make the same because of the failure of the Contractor to do so.

Contractor: _____

By: _____
Signature of Partner or Corporate Officer

Print Name: _____

Subscribed and sworn to before me this
day of _____, year _____

Notary Public



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2.8 WASTE DISPOSAL DOCUMENTATION:

- A. Certify and deliver to the Commissioner all documentation including reports, receipts, certificates, records etc. for the collection, handling, storage, classification, testing, transportation, recycling and/or disposal of all Non-Hazardous Construction Waste as required by Section 01 74 19, CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL, and Hazardous Waste as required by other Project Specification Sections. Certify compliance with all applicable governing laws, codes, rules and regulations.

2.9 MISCELLANEOUS RECORD DOCUMENTS:

- A. Refer to other Project Specification Sections for miscellaneous record-keeping requirements and submittals in connection with various construction activities. Prior to Final Acceptance, complete miscellaneous records and place in good order, properly identified and bound or otherwise organized to allow for use and reference.
- B. Submit three (3) copies of each document to the Commissioner or as otherwise directed by the Commissioner.

PART III – EXECUTION

3.1 RECORDING AND MAINTENANCE:

- A. Recording: Maintain one copy of each submittal during the construction period for Contract Record Document purposes. Post changes and modifications to Project Record Documents as they occur; do not wait until the end of Project.
- B. Maintenance of Record Documents and Samples: Store Record Documents and Samples in the field office apart from the Contract Documents used for construction. Do not use Contract Record Documents for construction purposes. Maintain Record Documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to the Contract Record Documents for the Resident Engineer's reference during normal working hours.

END OF SECTION 01 79 39



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SECTION 01 79 00
DEMONSTRATION AND OWNER'S PRE-ACCEPTANCE ORIENTATION

REFER TO THE ADDENDUM FOR APPLICABILITY OF THIS SECTION 01 79 00

PART I – GENERAL

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].

1.2 SUMMARY:

- A. This Section includes administrative and procedural requirements, when set forth in sections of the Project Specifications, for instructing facility's personnel, including the following:
1. Demonstration of operation of systems, subsystems, and equipment.
 2. Owner's Pre-Acceptance Orientation in operation and maintenance of systems, subsystems, and equipment.
 3. Demonstration and Orientation videotapes. (Non-Commissioned Projects)
- B. The Contractor shall provide the services of equipment manufacturers orientation specialists experienced in the type of equipment to be demonstrated.
- C. Separate Orientation sessions shall be conducted for mechanical operations and maintenance personnel and for electronic and electrical maintenance personnel.
- D. Commissioning: Refer to the Addendum to identify whether this project is to be Commissioned. For Commissioned projects the Contractor shall provide Demonstration and Orientation as described in this section and cooperate with the Commissioning Authority/Agent (CxA) to implement Commissioning requirements as described in Section 01 91 13, GENERAL COMMISSIONING REQUIREMENTS.

1.3 RELATED SECTIONS: include without limitation the following:

- A. Section 01 10 00 SUMMARY
- B. Section 01 33 00 SUBMITTAL PROCEDURES
- C. Section 01 77 00 CLOSEOUT PROCEDURES
- D. Section 01 78 39 CONTRACT RECORD DOCUMENTS
- E. Section 01 91 13 GENERAL COMMISSIONING REQUIREMENTS
- F. Specific requirements for demonstration and training indicated in other sections of the Project Specifications

1.4 DEFINITIONS:

- A. Refer to Article 2 of the Contract for definition of terms, words and expressions used in the General Conditions not otherwise defined herein.



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- B. Design Consultant: "Design Consultant" shall mean the entity responsible for providing design services for the Project, including without limitation, preparing the construction documents (drawings and specifications) and providing services in connection with such documents during construction. The entity serving as the "Design Consultant" may be a corporation, firm, partnership, joint venture, individual or combination thereof. Such entity may be either an employee(s) of the City or an entity engaged by the City to provide such services.

1.5 SUBMITTALS:

- A. Instruction Program: Submit three (3) copies of outline of instructional program for demonstration and orientation, including a schedule of proposed dates, times, length of instruction time, and instructors' names for each orientation module to the Commissioner for approval no less than thirty (30) days prior to the date the proposed orientation is to take place. Include learning objectives and outline for each orientation module.
1. At completion of training, submit three (3) complete training manual(s) and three (3) applicable DVD recording(s) to the Commissioner for the facility's and City's use.
- B. Qualification Data: For facilitator, instructor and Videographer.
- C. Attendance Record: For each orientation module, submit list of participants and length of instruction time.
- D. Evaluations: For each participant and for each orientation module, submit results and documentation of performance-based test.
- E. Submit all final orientation material to the Resident Engineer a minimum of fourteen (14) days prior to the scheduled training.
- F. Demonstration and Orientation Recordings:
1. Non-Commissioned Projects:
- a. The Contractor shall submit to the Commissioner three (3) copies of Demonstration and Orientation DVD (Digital Video Disk) recordings within seven (7) days of end of each training module.
- b. Identification: On each copy, provide an applied label with the following information:
- 1) Project Contract I.D. Number
 - 2) Project Contract Name
 - 3) Name of Contractor
 - 4) Name of Subcontractor as applicable
 - 5) Name of Design Consultant
 - 6) Name of Construction Manager as applicable
 - 7) Date recorded.
 - 8) Description of vantage point, indicating location, direction (by compass point), and elevation or story of construction.
 - 9) Table of Contents including list of systems covered.
- c. Transcript: Prepared on 8-1/2-by-11-inch paper, punched and bound in heavy-duty, 3-ring, vinyl-covered binders. Mark appropriate identification on front and spine of each binder. Include a cover sheet with same label information as the corresponding DVD recording. Include name of Project and date of recording on each page.
2. Commissioned Projects:
- a. Demonstration and Orientation DVD recordings for Commissioned projects will be recorded by the Commissioning Authority/Agent (CxA) under separate contract with the City of New



York. The Contractor performing Demonstration and Orientation shall cooperate with the CxA in the recording of each Demonstration and Orientation module.

1.6 QUALITY ASSURANCE:

- A. Facilitator Qualifications: A firm or individual experienced in orientation or educating maintenance personnel in an orientation program similar in content and extent to that indicated for this Project.
- B. Instructor Qualifications: A factory-authorized service representative, complying with requirements in Section 01 40 00, QUALITY REQUIREMENTS, experienced in operation and maintenance procedures and orientation.
- C. Videographer Qualifications: A professional Videographer who has experience with orientation and construction projects.
- D. Pre-instruction Conference: Schedule with the Resident Engineer a conference at Project site to comply with requirements in Section 01 31 00, PROJECT MANAGEMENT AND COORDINATION. Review methods and procedures related to demonstration and orientation including, but not limited to, the following:
 - 1. Inspect and discuss locations and other facilities required for instruction.
 - 2. Review and finalize instruction schedule and verify availability of educational materials, instructors' personnel, audiovisual equipment, and facilities needed to avoid delays.
 - 3. Review required content of instruction.
 - 4. For instruction that must occur outside, review weather and forecasted weather conditions and procedures to follow if conditions are unfavorable.

1.7 COORDINATION:

- A. Coordinate instruction schedule with the Resident Engineer and facility's operations. Adjust schedule as required to minimize disrupting facility's operations.
- B. Coordinate instructors, including providing notification of dates, times, length of instruction time, and course content.
- C. Coordinate content of orientation modules with content of approved emergency, operation, and maintenance manuals. Do not submit instruction program until operation and maintenance data has been reviewed and approved by the Commissioner.

PART II – PRODUCTS

2.1 INSTRUCTION PROGRAM:

- A. Program Structure: Develop an instruction program that includes individual orientation modules for each system and equipment not part of a system, as specified and required by individual Specification Sections.
- B. Orientation Modules: Develop a learning objective and teaching outline for each module. Include a description of specific skills and knowledge that participant is expected to master. For each module, include instruction for the following:
 - 1. Basis of System Design, Operational Requirements, and Criteria: Include the following:
 - a. System, subsystem, and equipment descriptions.
 - b. Performance and design criteria if Contractor is delegated design responsibility.
 - c. Operating standards.



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- d. Regulatory requirements.
 - e. Equipment function including auxiliary equipment and systems.
 - f. Operating characteristics.
 - g. Limiting conditions.
 - h. Performance curves.
2. Documentation: Review the following items in detail:
- a. Emergency manuals.
 - b. Operations manuals.
 - c. Maintenance manuals.
 - d. Project Record Documents.
 - e. Identification systems.
 - f. Warranties
3. Emergencies: Include the following, as applicable:
- a. Instructions on meaning of warnings, trouble indications, and error messages.
 - b. Instructions on stopping.
 - c. Shutdown instructions for each type of emergency.
 - d. Operating instructions for conditions outside of normal operating limits.
 - e. Sequences for electric or electronic systems.
 - f. Special operating instructions and procedures.
4. Operations: Include the following, as applicable:
- a. Startup procedures.
 - b. Equipment or system break-in procedures.
 - c. Routine and normal operating instructions.
 - d. Regulation and control procedures.
 - e. Control sequences.
 - f. Safety procedures.
 - g. Instructions on stopping.
 - h. Normal shutdown instructions.
 - i. Operating procedures for emergencies.
 - j. Operating procedures for system, subsystem, or equipment failure.
 - k. Seasonal and weekend operating instructions.
 - l. Required sequences for electric or electronic systems.
 - m. Special operating instructions and procedures.
5. Adjustments: Include the following:
- a. Alignments.
 - b. Checking adjustments.
 - c. Noise and vibration adjustments.
 - d. Economy and efficiency adjustments.
6. Troubleshooting: Include the following:
- a. Diagnostic instructions.
 - b. Test and inspection procedures.
7. Maintenance: Include the following:
- a. Inspection procedures.
 - b. Types of cleaning agents to be used and methods of cleaning.
 - c. List of cleaning agents and methods of cleaning detrimental to product.
 - d. Procedures for routine cleaning



- e. Procedures for preventive maintenance.
 - f. Procedures for routine maintenance.
 - g. Instruction on use of special tools.
 - h. Housekeeping practices
8. Repairs: Include the following:
- a. Diagnosis instructions.
 - b. Repair instructions.
 - c. Disassembly; component removal, repair, and replacement; and reassembly instructions.
 - d. Instructions for identifying parts and components.
 - e. Review of spare parts needed for operation and maintenance.

PART III – EXECUTION

3.1 INSTRUCTION:

- A. Facilitator: Engage a qualified facilitator to prepare instruction program and training modules, to coordinate instructors, and to coordinate between Contractor and the Resident Engineer for the number of participants, instruction times, and location.
- B. The Contractor shall engage qualified instructors to instruct facility's personnel to adjust, operate, and maintain systems, subsystems, and equipment not part of a system.
- C. Scheduling: Schedule instruction with the Resident Engineer at mutually agreed times. For equipment that requires seasonal operation, provide similar instruction at start of each season.
 - 1. Schedule orientation with the Resident Engineer with at least fourteen (14) days' advance notice.
- D. Evaluation: At conclusion of each orientation module, assess and document each participant's mastery of module(s) by use of an oral a written or a demonstration performance-based test.
- E. Cleanup: Collect and remove used and leftover educational materials from project site. Remove instructional equipment. Restore systems and equipment to condition existing before initial orientation use.

3.2 DEMONSTRATION AND ORIENTATION RECORDINGS:

- A. Non-Commissioned projects:
 - 1. The Contractor shall engage a qualified commercial Videographer to record demonstration and orientation sessions. Record each orientation module separately. Include classroom instructions and demonstrations, board diagrams, and other visual aids, but not student practice.
 - 2. At beginning of each orientation module, record each chart containing learning objective and lesson outline.
 - 3. All recordings must be close captioned.
 - 4. Recording Format: Provide high-quality DVD (Digital Video Disk) format.
 - 5. Recording: Mount camera on tripod before starting recording, unless otherwise necessary to show area of demonstration and orientation. Display continuous running time.
 - 6. Narration: Describe scenes on the recording by audio narration by microphone while recording or by dubbing audio narration off-site after. Include description of items being viewed. Describe vantage point, indicating location, direction (by compass point), and elevation or story of construction.



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7. Transcript: Provide a typewritten transcript of the narration. Display images and running time captured from opposite the corresponding narration segment.
- B. Commissioned Projects:
- Refer to the Addendum to determine if the project is to be Commissioned.
1. The Commissioning Authority/Agent (CxA) under separate contract with the City of New York will assess and comment on the adequacy of the Orientation Instruction sessions by reviewing the Orientation and Instruction program and agenda provided by each contractor. The provider of the Orientation program will videotape the sessions and provide a copy to the CxA for final review and comments. If necessary, Contractor shall edit the DVD recording per CxA comments.

END OF SECTION 01 79 00



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SECTION 01 81 13
SUSTAINABLE DESIGN REQUIREMENTS FOR LEED BUILDINGS

REFER TO THE ADDENDUM FOR APPLICABILITY OF THIS SECTION 01 81 13

PART I – GENERAL

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].

1.2 SUMMARY:

A. LEED BUILDING - GENERAL REQUIREMENTS:

The City of New York is committed to implementing good environmental practices and procedures which include achieving a LEED™ Green Building rating. Specific project requirements related to this goal are listed in the applicable paragraphs of this section of the General Conditions. The Contractor shall ensure that these requirements as defined in the sections below and in related sections of the Contract Documents, are implemented to the fullest extent. Substitutions, or other changes to the work proposed by the Contractor or their Subcontractors, shall not be allowed if such changes compromise the stated LEED BUILDING criteria.

B. This Section includes:

1. Definitions
2. LEED Provisions
3. LEED Building Submittals
4. LEED Building Submittal Requirements
5. LEED Action Plan

1.3 RELATED SECTIONS: Include without limitation the following:

- | | | |
|----|---------------------|---|
| A. | Section 01 74 19 | CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL |
| B. | Section 01 81 13.13 | VOLATILE ORGANIC COMPOUND (VOC) LIMITS FOR ADHESIVES, SEALANTS, PAINTS AND COATINGS |
| C. | Section 01 81 19 | INDOOR AIR QUALITY REQUIREMENTS FOR LEED BUILDINGS |
| D. | Section 01 91 13 | GENERAL COMMISSIONING REQUIREMENTS |

1.4 DEFINITIONS:

- A. Refer to Article 2 of the Contract for definition of terms, words and expressions used in the General Conditions not otherwise defined herein.
- B. Agrifiber Products: Products derived from recovered agricultural waste fiber from sources such as cereal straw, sugarcane bagasse, sunflower husk, walnut shells, coconut husks, and agricultural prunings, processed and mixed with resins to produce panels with characteristics similar to composite wood.



- C. Composite Wood: Products composed of wood or plant particles or fibers bonded by a synthetic resin or binder to produce panels such as plywood, particleboard, and medium density fiberboard (MDF). Does not include hardboard, structural panels, glued laminated timber, prefabricated wood I-joists, or finger-jointed lumber.
- D. Design Consultant: "Design Consultant" shall mean the entity responsible for providing design services for the Project, including without limitation, preparing the construction documents (drawings and specifications) and providing services in connection with such documents during construction. The entity serving as the "Design Consultant" may be a corporation, firm, partnership, joint venture, individual or combination thereof. Such entity may be either an employee(s) of the City or an entity engaged by the City to provide such services.
- E. Forest Stewardship Council (FSC) Certified Wood: Wood-based materials and products certified in accordance with the Forest Stewardship Council's principles and criteria.
- F. LEED: The Leadership in Energy & Environmental Design rating system developed by the United States Green Building Council.
- G. Rapidly Renewable Materials: Materials made from agricultural products that are typically harvested within a ten-year or shorter cycle. Rapidly renewable materials include products made from bamboo, cotton, flax, jute, straw, sunflower seed hulls, vegetable oils, or wool.
- H. Regionally Manufactured Materials: Materials that are manufactured within a radius of 500 miles from the Project location. Manufacturing refers to the final assembly of components into the building product that is installed at the Project site.
- I. Regionally Extracted, Harvested, or Recovered Materials: Materials which are extracted, harvested, or recovered and manufactured within a radius of 500 miles from the Project site.
- J. Recycled Content: The percentage by weight of constituents that have been recovered or otherwise diverted from the solid waste stream, either during the manufacturing process (pre-consumer), or after consumer use (post-consumer).
 - 1. Spills and scraps from the original manufacturing process that are combined with other constituents after a minimal amount of reprocessing for use in further production of the same product are not recycled materials.
 - 2. Discarded materials from one manufacturing process that are used as constituents in another manufacturing process are pre-consumer recycled materials.
 - 3. "Pre-consumer" may also be referred to as "post-industrial".
- K. Solar Reflectance Index (SRI): A measure of a material's ability to reflect solar heat, as shown by a small temperature rise. It is defined so that a standard black (reflectance 0.05, emittance 0.90) is equal to 0, and a standard white (reflectance 0.80, emittance of 0.90) is equal to 100.
- L. Volatile Organic Compound (VOC): Any compound of carbon (excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate) which vaporizes (becomes a gas) and participates in atmospheric photochemical reactions, as specified in Part 51.00 of Chapter 40 of the U.S. Code of Federal Regulations, at normal room temperatures. For the purposes of this specification, formaldehyde and acetaldehyde are considered to be VOCs.



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1.5 LEED PROVISIONS:

- A. Refer to the Addendum for the LEED rating to be achieved for this project. The provisions to achieve this LEED rating are integrated within the project construction documents and specifications. The Contractor is specifically directed to the "LEED BUILDING Performance Criteria" and "LEED BUILDING Submittals" sections within the contract specification. Additional LEED requirements are met through aspects of the project design, including material and equipment selections, which may not be specifically identified as LEED BUILDING requirements. Compliance with the requirements needed to obtain LEED prerequisites and credits will be used as one criterion to evaluate substitution requests.

1.6 LEED BUILDING SUBMITTALS:

- A. Scope: LEED BUILDING submittals are required for all installed materials included in General Construction work. LEED BUILDING Submittals are only required for field-applied adhesives, sealants, paints and coatings included in Plumbing, Mechanical and Electrical work. Submit all required LEED BUILDING submittals in accordance with Section 01 33 00, SUBMITTAL PROCEDURES.
- B. Applicability: The extent of the LEED BUILDING Submittals varies depending on the specification section. Applicable LEED BUILDING Submittals are listed under the "LEED BUILDING Submittals" heading in each specification section. The detailed requirements for the LEED BUILDING Submittals are defined in Item C below.
- C. Detailed Requirements: Sub-Sections 1.6 C.1 through 1.6 C.3 below defines the information and documents to be provided for each type of LEED BUILDING Submittal as identified in the LEED Submittal Requirements of each specification section:
1. ENVIRONMENTAL BUILDING MATERIALS CERTIFICATION FORM (EBMCF)[GHI]: Information to be supplied for this form (blank sample copy attached at end of this Section to be modified as appropriate to the project) shall include some or all of the following items, as identified in the LEED Submittal Requirements of each specification section:
 - a. Cost breakdowns for the materials included in the contractor or sub-contractor's scope of work. Cost reporting shall include itemized material costs (excluding the contractor's labor, equipment, overhead and profit).
 - b. The percentages (by weight) of post-consumer and/or post-industrial recycled content in the supplied product(s).
 1. For each product with recycled content, also indicate the total recycled content value $(1/2 \times \text{pre-consumer percentage} \times \text{product value} + 1 \times \text{post-consumer percentage} \times \text{product value} = \text{total recycled content value})$.
 2. See additional requirements for concrete below.
 - c. Identification (Yes/No) of materials manufactured within 500 miles of the project site AND containing raw materials harvested or extracted within 500 miles of the project site.
 - 1) Indicate the percentage by weight, relative to the total weight of the product that meets these criteria.
 - 2) Indicate the point of harvest/extraction/recovery of regional raw materials, the point of final assembly of regional manufactured products, and the distance from each point to the project site.
 - d. Volatile Organic Compound (VOC) content of all field-applied adhesives, sealants, paints, and coatings, listed in grams/liter or lbs./gallon, less water.
 - 1) For detailed requirements refer to Section 01 81 13.13 VOC LIMITS FOR ADHESIVES, SEALANTS, PAINTS AND COATINGS.
 - e. The amount of "Forest Stewardship Council (FSC) Certified" wood products if used in the Project.
 - 1) Record only new FSC-certified wood products. Do not record reclaimed, salvaged, or recycled FSC-certified wood products.



- 2) Reclaimed, salvaged, or recycled FSC-certified wood may be recorded as post-consumer recycled content.
 - f. The amount of Rapidly Renewable materials if used in the Project.
 - 1) Indicate the type of rapidly renewable material used, and the percentage by weight, relative to the total weight of the product, that consists of rapidly renewable material.
 - g. The percentage (by weight), relative to the total weight of cementitious materials, of supplementary cementitious materials or pozzolans such as fly ash used in each concrete mix used in the Project.
 - 1) For each concrete mix, provide a complete breakdown of all components, by weight and by cost.
 - h. Identification (Yes/No) of composite wood or agrifiber products used in the project that are free of added urea-added formaldehyde resins.
 - i. Identification (Yes/No) of flooring products used in the project that have Carpet and Rug Institute (CRI) Green Label or Green Label Plus certification, or Resilient Floor Covering Institute FloorScore certification.
 - 1) Untreated solid wood flooring, and mineral-based flooring products such as tile, masonry, terrazzo, and cut stone that have no organic-based coatings or sealants, are excluded from this requirement.
 - j. The EBMCF shall record the above information only for those materials or products permanently installed in the project. The EBMCF shall record VOC content, composite and agrifiber products, and CRI or FloorScore ratings only for those materials or products permanently installed within the weather barrier of the LEED building.
2. **EBMCF BACK-UP DOCUMENTATION:** These documents are used to validate the information provided on the EBMCF (except cost data). For each material listed on the EBMCF, provide documentation to certify the material's LEED BUILDING attributes, as applicable:
 - a. **RECYCLED CONTENT:** Provide published product literature or letter of certification on the manufacturer's letterhead certifying the amounts of post-consumer and/or post-industrial content.
 - b. **REGIONAL MANUFACTURING AND REGIONAL RAW MATERIALS (WITHIN 500 MILES):** Provide published product literature or letter of certification on the manufacturer's letterhead indicating the city/state where the manufacturing plant is located, where each of the raw materials in the product were extracted, harvested or recovered and the distance in miles from the project site.
 - 1) If only some of the raw materials for a particular product or assembly originate within 500 miles of the project site, provide the percentage (by weight) that these materials comprise in the complete product.
 - c. **VOC CONTENT:** Provide Material Safety Data Sheets (MSDS) certifying the Volatile Organic Compound (VOC) content of the adhesive, sealant, paint, or coating products. VOC content is to be reported in grams/liter or lbs./gallon, less water. If the MSDS does not show the product's VOC content, this information must be provided through other published product literature from the manufacturer, or stated in a letter of certification from the product manufacturer on the manufacturer's letterhead.
 - d. **RAPIDLY RENEWABLE MATERIALS:** If used in the project, provide published literature or letter of certification on the manufacturer's letterhead certifying the percentage of each product that is rapidly renewable (by weight).
3. **PRODUCT CUT SHEETS:** Provide product cut sheets with the Contractor's or sub-contractor's stamp, confirming that the submitted products are the products installed in the Project.
4. **CRI GREEN LABEL PLUS CERTIFICATION:** For carpets and carpet cushions, provide published product literature or letter from the manufacturer (on the manufacturer's letterhead) verifying that the products comply with the "Green Label Plus" IAQ testing program of the Carpet and Rug Institute of Dalton, GA.



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5. **CERTIFICATION OF COMPOSITE WOOD OR AGRIFIBER RESINS:** For all composite wood, engineered wood and agrifiber products (including plywood, particleboard, and medium density fiberboard), provide published product literature or letter from the manufacturer (on the manufacturer's letterhead) verifying that the products do not contain added urea-formaldehyde resins.
6. **CERTIFICATION OF COMPOSITE WOOD OR AGRIFIBER LAMINATING ADHESIVES:** For all laminating adhesives used with composite wood, engineered wood and agrifiber products (e.g., adhesives used to laminate wood veneers to an engineered wood substrate), provide published product literature or letter from the manufacturer (on the manufacturer's letterhead) verifying that the adhesive products do not contain urea-formaldehyde.
7. **FSC-CERTIFIED WOOD:**
 - a. If used in the project, provide chain of custody documents and copies of invoices regarding wood products, including whether or not such wood product is FSC-certified.
 - b. If used in the project, for assemblies, provide the percentage (by cost and by weight) of the assembly that is FSC-certified wood.
 - c. If used in the project, for assemblies, provide published product literature or letter from the manufacturer (on the manufacturer's letterhead) verifying the percentage that is FSC-certified wood.
8. **GREEN SEAL COMPLIANCE:** Provide published product literature or letter from the manufacturer (on the manufacturer's letterhead) verifying that the following product types comply with the VOC limits and chemical component restrictions developed by the Green Seal organization of Washington, DC:
 - a. Interior Architectural Paints and Coatings: refer to Green Seal standard GS-11 (1st edition, May 1993)
 - b. Anti-corrosive and Anti-rust paints: refer to Green Seal standard GC-03 (2nd Edition, January 1997)
 - c. Aerosol Adhesives: refer to Green Seal standard GS-36 (1st edition, October 2000)
9. **HIGH ALBEDO PAVING AND WALKWAY MATERIALS:** For paving and walkway materials made from concrete or brick provide published product literature or letter from the manufacturer (on the manufacturer's letterhead) verifying a minimum Solar Reflectance Index (SRI) value of 29. SRI values shall be calculated according to ASTM E 1980. Reflectance shall be measured according to ASTM E 903, ASTM E 1918, or ASTM C 1549. Emittance shall be measured according to ASTM E 408 or ASTM C 1371.
10. **HIGH ALBEDO ROOFING MATERIALS:** For exposed roofing membranes, pavers, and ballast products, provide published product literature or letter from the manufacturer (on the manufacturer's letterhead) verifying the following minimum Solar Reflectance Index (SRI) values:
 - a. 78 for low-sloped roofing applications (slope \leq 2:12)
 - b. 29 for steep-sloped roofing applications (slope $>$ 2:12)

SRI values shall be calculated according to ASTM E 1980. Reflectance shall be measured according to ASTM E 903, ASTM E 1918, or ASTM C 1549. Emittance shall be measured according to ASTM E 408 or ASTM C 1371.

Vegetated roof surfaces are exempt from the SRI criteria.
11. **LOW MERCURY LAMPS:** For all fluorescent, compact fluorescent, and HID lamps installed in the project, provide published product literature or letter from the manufacturer (on the manufacturer's letterhead) verifying:
 - a. The mercury content or content range per lamp in milligrams or picograms;
 - b. The design light output per lamp (light at 40% of a lamp's useful life) in lumens; and
 - c. The rated average life of the lamp in hours.



In addition, provide the total number of each lamp type installed in the project.

12. **FLOORSCORE CERTIFICATION:** For all hard surface flooring, including vinyl, linoleum, laminate flooring, wood flooring, ceramic flooring, rubber flooring, and wall base, provide published product literature or letter from the manufacturer (on the manufacturer's letterhead) verifying that the products comply with the current FloorScore standard requirements.
13. **CONCRETE:** Provide concrete mix design for each mix, designated by a distinct identifying code or number and signed by a Professional Engineer licensed in the state in which the concrete manufacturer or supplier is located.
14. **INTERIOR LIGHTING FIXTURES:** For each lighting fixture type installed within the building's weather barrier, provide manufacturer's cut sheets indicating the following:
 - a. Fixture power in watts.
 - b. Initial lamp lumens.
 - c. Photometric distribution data.
 - d. Dimming capability, in range of percentages.
15. **EXTERIOR LIGHTING FIXTURES:** For each lighting fixture type installed on site, provide manufacturer's cut sheets indicating the following:
 - a. Fixture power in watts.
 - b. Initial lamp lumens.
 - c. Photometric distribution data.
 - d. Range of field adjustability, if any.
 - e. Warranty of suitability for exterior use.
16. **ALTERNATIVE TRANSPORTATION:** Provide manufacturer's cut sheets and/or shop drawings for the following items installed on site:
 - a. Bike racks, including total number of bicycle slots provided.
 - b. Signage indicating parking spaces reserved for electric or low-emitting vehicles and for carpools/vanpools, including total number of signs.
17. **WATER CONSERVING FIXTURES:** For all water consuming plumbing fixtures and fittings, provide manufacturer's cut sheets showing maximum flow rates and/or flush rates.
18. **ENERGY SAVING APPLIANCES:** Provide manufacturer's cut sheets and published product literature or letter from the manufacturer (on the manufacturer's letterhead) verifying the product's rating under the U.S. EPA/DOE Energy Star program, for all of the following:
 - a. Appliances (i.e., refrigerators, dishwashers, microwave ovens, televisions, clothes washers, clothes dryers, chilled water dispensers).
 - b. Office equipment (i.e., copy machines, fax machines, plotters/printers, scanners, binding and publishing equipment).
 - c. Electronics (i.e., servers, desktop computers, computer monitor displays, laptop computers, network equipment).
 - d. Commercial food service equipment
19. **GLAZING:** For glazing in any windows, doors, storefront and window wall systems, curtainwall systems, skylights, and partitions, provide manufacturer's cut sheets indicating the following:
 - a. Glazed area.
 - b. Visible light transmittance.
 - c. Solar heat gain coefficient.
 - d. Fenestration assembly u-factor.



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20. VENTILATION: Provide manufacturer's cut sheets for the following:
 - a. Carbon dioxide monitoring systems, if any, installed to measure outside air delivery.
 - b. Air filters: for detailed requirements refer to Section 01 81 19 INDOOR AIR QUALITY REQUIREMENTS.
21. REFRIGERATION: For all refrigeration equipment, provide manufacturer's cut sheets indicating the following:
 - a. Equipment type.
 - b. Equipment life. Default values specified by the 2007 ASHRAE Applications Handbook will be used unless otherwise demonstrated by the manufacturer's guarantee and an equivalent long-term service contract.
 - c. Refrigerant type.
 - d. Refrigerant charge in pounds of refrigerant per ton of gross cooling capacity.
 - e. Tested refrigerant leakage rate, in percent per year. A default rate of 2% will be used unless otherwise demonstrated by test data.
 - f. Tested end-of-life refrigerant loss, in percent. A default rate of 10% will be used unless otherwise demonstrated by test data.

1.7 LEED BUILDING SUBMITTAL REQUIREMENTS:

- A. The LEED BUILDING Submittal information shall be assembled into one package per contract specification section(s) (or per subcontractor), and submitted in accordance with Section 01 33 00, SUBMITTAL PROCEDURES. Incomplete or inaccurate LEED BUILDING submittals may be used as the basis for the rejection of products or assemblies. Incomplete or inaccurate LEED BUILDING Submittals may be used as the basis for rejecting the submitted products or assemblies.

1.8 LEED ACTION PLANS:

- A. Construction Waste Management Plan- Refer to Section 01 74 19, Construction Waste Management and Disposal for detailed submittal requirements.
- B. Construction IAQ Management Plan- Refer to Section 01 81 19, Indoor Air Quality Requirements for LEED Buildings, for detailed submittal requirements.
- C. Erosion and Sedimentation Control Plan:
 1. The Plan shall be in accordance with the New York State Department of Environmental Conservation (NYSDEC) or the 2003 EPA Construction General Permit, whichever is more stringent.
 2. The Plan shall be submitted in accordance with Section 01 33 00, SUBMITTAL PROCEEDURES.
 3. Detailed requirements: ESC Plan
 - a. Include the Stormwater Pollution Prevention Plan, if required.
 - b. Identify the party responsible for Plan monitoring and documentation. The party must be regularly on site.
 - c. Describe all site work that will be implemented on the project.
 - d. Provide site plan with location of ESC measures, including, but not limited to, stormwater quantity controls, stormwater quality controls, stabilized construction entrances, washdown areas, and inlet/catch basin protection.
 - e. Describe the inspection and maintenance of the ESC measures. Provide a construction schedule indicating weekly site review.
 - f. Describe reporting and documentation measures.
 4. Detailed requirements: ESC Measures



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5. Submittal requirements: ESC Tracking Log
 - a. Note date of major rain events, describe damage, describe any repairs or maintenance performed, and note responsible party.
 - b. Note date and findings of weekly site review, describe any repairs or maintenance performed, and note responsible party.
 - c. Submit monthly.
6. Implementation
 - a. The Contractor shall implement the ESC Plan, coordinate the Plan with all affected trades, and designate one individual as the Erosion and Sedimentation Control Representative, who will be responsible for communicating the progress of the Plan with the Commissioner on a regular basis, and for assembling the required LEED documentation.
 - b. The Contractor shall be responsible for the provision, maintenance, and repair of all ESC measures.
 - c. Demonstration. The Contractor shall provide on-site instruction of proper construction practices required to prevent erosion and sedimentation.
 - d. Meetings. Urgent or ongoing ESC issues shall be discussed at weekly on-site job meetings.

1.9 QUALITY ASSURANCE:

- A. The Contractor shall implement all LEED Action Plans, coordinate the Plans and LEED Building Submittals with all affected trades, and designate one individual as the Sustainable Construction Representative at no additional cost to the City of New York, who will be responsible for communicating the progress of LEED activities with the Commissioner on a regular basis, and for assembling the required LEED documentation.
- B. Responsibilities of Contractor's Subcontractors: The Contractor shall be responsible for his/her subcontractors complying with the LEED Action Plans and for providing required LEED documentation as required for the project.
- C. Distribution and Compilation: The Contractor shall be responsible for distributing the EBMCF and any other forms or templates required for the subcontractors to record LEED documentation. The Contractor shall also be responsible for collecting and compiling EBMCF information into packages as described in Section 01 33 00 SUBMITTAL PROCEDURES.
- D. Meetings: Sustainable design and construction issues shall be discussed at the following meetings:
 1. Demolition kick-off meeting
 2. Construction kick-off meeting
 3. Construction kick-off meeting for LEED (independent meeting)
 4. Weekly job-site progress and coordination meetings
 5. Closeout meeting

PART II – PRODUCTS (Not Used)

PART III – EXECUTION (Not Used)

END OF SECTION 01 81 13



ENVIRONMENTAL BUILDING MATERIALS CERTIFICATION FORM

Project Name:

Project I.D.:

Telephone Number:

[illegible]

- * Applies only to materials/products installed within the weather barrier.

Signature of Authorized Representative:

Date:

NO TEXT



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SECTION 01 81 13.13

VOLATILE ORGANIC COMPOUND (VOC) LIMITS FOR ADHESIVES, SEALANTS, PAINTS AND COATINGS FOR LEED BUILDINGS

REFER TO THE ADDENDUM FOR APPLICABILITY OF THIS SECTION 01 81 13.13

PART I – GENERAL

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].

1.2 SUMMARY:

- A. This Section includes requirements for volatile organic compound (VOC) content in adhesives, sealants, paints and coatings used for the project.
- B. All sections in the Project Specifications with adhesives, sealant or sealant primer applications, paints and coatings shall follow all requirements of this section. In the event of any conflict or inconsistency between this section and the Specifications regarding adhesives, sealant or sealant applications, paints and coatings, the requirements set forth in this Section shall prevail.
- C. This Section includes:
 - 1. General Requirements
 - 2. References
 - 3. VOC Requirements for Interior Adhesives
 - 4. VOC Requirements for Interior Sealants
 - 5. VOC requirements for Interior Paints
 - 6. VOC requirements for Interior Coatings
 - 7. Submittals

1.3 RELATED SECTIONS: Include without limitation the following:

- A. Section 01 10 00 SUMMARY
- B. Section 01 31 00 PROJECT MANAGEMENT AND COORDINATION
- C. Section 01 32 00 CONSTRUCTION PROGRESS DOCUMENTATION
- D. Section 01 33 00 SUBMITTAL PROCEDURES
- E. Section 01 73 00 EXECUTION
- F. Section 01 77 00 CLOSEOUT PROCEDURES
- G. Section 01 78 39 CONTRACT RECORD DOCUMENTS
- H. Section 01 81 13 SUSTAINABLE DESIGN REQUIREMENTS FOR LEED BUILDINGS
- I. Section 01 81 19 INDOOR AIR QUALITY FOR LEED BUILDINGS

1.4 DEFINITIONS:

- A. **ADHESIVE:** Any substance used to bond one surface to another by attachment. Includes adhesive primers and adhesive bonding primers.
 - 1. **Aerosol Adhesive:** Any adhesive packaged as an aerosol with a spray mechanism permanently housed in a non-refillable can designed for hand-held application without the need for ancillary equipment.
- B. **CARCINOGEN:** A chemical listed as a known, probable, reasonably anticipated, or possible human

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carcinogen by the International Agency for Research on Cancer (IARC) (Groups 1, 2A, and 2B), the National Toxicology Program (NTP) (Groups 1 and 2), the U.S. Environmental Protection Agency (EPA) Integrated Risk Information System (IRIS) (weight-of-evidence classifications A, B1, B2, and C, carcinogenic, likely to be carcinogenic, and suggestive evidence of carcinogenicity or carcinogen potential), or the Occupational Safety and Health Administration (OSHA).

- C. **CLEAR WOOD FINISH:** Clear/semi-transparent coating applied to wood substrates to provide a transparent or translucent solid film.
 - 1. **Lacquer:** Clear/semi-transparent coating formulated with cellulosic or synthetic resins to dry by evaporation without chemical reaction and provide a solid, protective film.
 - 2. **Sanding Sealer:** A sanding sealer that also meets the definition of a lacquer.
 - 3. **Varnish:** Clear/semi-transparent coating, excluding lacquers and shellacs, formulated to dry by chemical reaction on exposure to air. May contain small amounts of pigment.
- D. **COATING:** Liquid, liquefiable, or mastic composition that is converted to a solid adherent film after application to a substrate as a thin layer; and is used for decorating, protecting, identifying or to serve some functional purpose such as the filling or concealing of surface irregularities or the modification of light and heat radiation characteristics; and is intended for on-site application to interior or exterior surfaces of buildings. Does not include stains, clear finishes, recycled latex paint, specialty (industrial, marine or automotive) coatings or paint sold in aerosol cans.
- E. **FLOOR COATING:** Opaque coating applied to flooring. Excludes industrial maintenance coatings.
- F. **HAZARDOUS AIR POLLUTANT:** Any compound listed by the U.S. EPA in the Clean Air Act Section 112(b)(1) as a hazardous air pollutant.
- G. **MUTAGEN:** A chemical that meets the criteria for category 1, chemicals known to induce heritable mutations or to be regarded as if they induce heritable mutations in the germ cells of humans, under the Harmonized System for the Classification of Chemicals Which Cause Mutations in Germ Cells (United Nations Economic Commission for Europe, Globally Harmonized System of Classification and Labeling of Chemicals).
- H. **OZONE-DEPLETING COMPOUNDS:** A compound with an ozone-depletion potential greater than 0.1 (CFC 11=1) according to the U.S. EPA list of Class I and Class II Ozone-Depleting Substances.
- I. **PAINT:** A pigmented coating. For the purposes of this specification, paint primers are considered to be paints.
 - 1. **Flat Coating or Paint:** Has a gloss of less than 15 (using an 85-degree meter) or less than 5 (using a 60-degree meter).
 - 2. **Non-Flat Coating or Paint:** Has a gloss of greater than or equal to 15 (using an 85-degree meter) or greater than or equal to 5 (using a 60-degree meter).
 - 3. **Non-Flat High-Gloss Coating or Paint:** Has a gloss of greater than or equal to 70 (using a 60-degree meter).
 - 4. **Anti-Corrosive / Rust Preventative Paint:** Coating formulated and recommended for use in preventing the corrosion of ferrous metal substrates.
- J. **PRIMER:** Coating that is formulated and recommended for one or more of the following purposes: to provide a firm bond between the substrate and a subsequent coating; to prevent a subsequent coating from being absorbed into the substrate; to prevent harm to a subsequent coating from materials in the substrate; or to provide a smooth surface for application of a subsequent coating.
- K. **REPRODUCTIVE TOXIN:** A chemical listed as a reproductive toxin (including developmental, female, and male toxins) by the State of California under the Safe Drinking Water and Toxic Enforcement Act of 1986 (California Code of Regulations, Title 22, Division 2, Subdivision 1, Chapter 3, Sections 1200, et. Seq.).
- L. **SANDING SEALER:** Clear/semi-transparent coating formulated to seal bare wood. Can be abraded to create a smooth surface for subsequent coatings. Does not include sanding sealers that are lacquers (see Clear Wood Finish above).
- M. **SEALANT:** Any material with adhesive properties, formulated primarily to fill, seal, or waterproof gaps or joints



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between surfaces. Includes sealant primers and caulks.

- N. SHELLAC: Clear or pigmented coating formulated solely with the resinous secretions of the lac beetle, thinned with alcohol and formulated to dry by evaporation without chemical reaction. Excludes floor applications.
- O. STAIN: Clear semi-transparent/opaque coating formulated to change the color but not conceal the grain pattern or texture of the substrate.
- P. VOLATILE AROMATIC COMPOUND: Any hydrocarbon compound containing one or more 6-carbone benzene rings, and having an initial boiling point less than or equal to 280 degrees Celsius measured at standard conditions of temperature and pressure.
- Q. VOLATILE ORGANIC COMPOUND: Any compound of carbon (excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate) which vaporizes (becomes a gas) and participates in atmospheric photochemical reactions, as specified in Part 51.00 of Chapter 40 of the U.S. Code of Federal Regulations, at normal room temperatures. For the purposes of this specification, formaldehyde and acetaldehyde are considered to be VOCs.
- R. WATERPROOFING SEALER: A coating that prevents the penetration of water into porous substrates.

1.5 GENERAL REQUIREMENTS:

- A. The City of New York is committed to implementing good environmental practices and procedures which include achieving a LEED Green building rating. Specific project requirements related to this goal which may impact this area of work are listed in the applicable paragraphs of this specification section. The Contractor shall ensure that the requirements as defined in the sections below and in related sections of the Contract Documents, are implemented to the fullest extent. Substitutions, or other changes to the work proposed by the Contractor or their Subcontractors, shall not be allowed if such changes compromise the stated environmental goals.

1.6 REFERENCES:

- A. Rule 1168 – “Adhesive and Sealant Applications”, amended 7 January 2005): South Coast Air Quality Management District (SCAQMD), State of California, www.aqmd.gov
- B. Rule 1113 - “Architectural Coatings”, amended 9 July 2004: South Coast Air Quality Management District (SCAQMD), State of California, www.aqmd.gov
- C. Green Seal Standard GS-11- “Paints”, of Green Seal, Inc., Washington, DC, www.greenseal.org
- D. Green Seal Standard GC-03- “Anti-Corrosive Paints”, of Green Seal, Inc., Washington, DC, www.greenseal.org

1.6 VOC REQUIREMENTS FOR INTERIOR ADHESIVES, SEALANTS, PAINTS AND COATINGS:

- A. GENERAL: Unless otherwise specified herein, the VOC content of all interior adhesives, sealants, paints and coatings (herein referred to as “products”) shall not be in excess of **250 grams per liter**.
- B. No product shall contain any ingredients that are carcinogens, mutagens, reproductive toxins, persistent bioaccumulative compounds, hazardous air pollutants, or ozone-depleting compounds. An exception shall be made for titanium dioxide and, for products that are pre-tinted by the manufacturer, carbon black, which shall be less than or equal to 1% by weight of the product.
- C. No product shall contain the following:
 - 1. methylene chloride
 - 2. 1,1,1-trichloroethane
 - 3. benzene

VOLATILE ORGANIC COMPOUND (VOC) LIMITS FOR ADHESIVES,
SEALANTS, PAINTS & COATINGS FOR LEED BUILDINGS

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4. toluene
5. ethylbenzene
6. vinyl chloride
7. naphthalene
8. 1,2-dichlorobenzene
9. di (2-ethylhexyl) phthalate
10. butyl benzyl phthalate
11. di-n-butyl phthalate
12. di-n-octyl phthalate
13. diethyl phthalate
14. dimethyl phthalate
15. isophorone
16. antimony
17. cadmium
18. hexavalent chromium
19. lead
20. mercury
21. formaldehyde
22. methyl ethyl ketone
23. methyl isobutyl ketone
24. acrolein
25. acrylonitrile

- D. No product shall contain more than 1.0% by weight of sum total of volatile aromatic compounds.

1.8 VOC REQUIREMENTS FOR INTERIOR ADHESIVES:

- A. The volatile organic compound (VOC) content of adhesives, adhesive bonding primers, or adhesive primers used in this project shall not exceed the limits defined in Rule 1168 – "Adhesive and Sealant Applications" of the South Coast Air Quality Management District (SCAQMD), of the State of California.
- B. The VOC limits defined by SCAQMD are as follows. All VOC limits are defined in grams per liter, less water and less exempt compounds.
- C. For specified building construction related applications, the allowable VOC content is as follows:
 1. Architectural Applications:

a. Indoor carpet adhesive	50
b. Carpet pad adhesive	50
c. Wood flooring adhesive	100
d. Rubber floor adhesive	60
e. Subfloor adhesive	50
f. Ceramic tile adhesive	65
g. VCT and asphalt tile adhesive	50
h. Drywall and panel adhesive	50
i. Cove base adhesive	50
j. Multipurpose construction adhesive	70
k. Structural glazing adhesive	100
 2. Specialty Applications:

a. PVC welding	510
b. CPVC welding	490
c. ABS welding	325
d. Plastic cement welding	250

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| e. | Adhesive primer for plastic | 550 |
| f. | Contact Adhesive | 80 |
| g. | Special Purpose Contact Adhesive | 250 |
| h. | Structural Wood Member Adhesive | 140 |
| i. | Sheet Applied Rubber Lining Operations | 850 |
| j. | Top and Trim Adhesive | 250 |
| 3. Substrate Specific Applications: | | |
| a. | Metal to metal | 30 |
| b. | Plastic foams | 50 |
| c. | Porous material (except wood) | 50 |
| d. | Wood | 30 |
| e. | Fiberglass | 80 |
| 4. Aerosol Adhesives: | | |
| a. | General purpose mist spray | 65% VOC's by weight |
| b. | General purpose web spray | 55% VOC's by weight |
| c. | Special purpose aerosol adhesives (all types) | 70% VOC's by weight |

1.9 VOC REQUIREMENTS FOR INTERIOR SEALANTS:

- A. The volatile organic compound (VOC) content of sealants, or sealant primers used in this project shall not exceed the limits defined in Rule 1168 – “Adhesive and Sealant Applications” of the South Coast Air Quality Management District (SCAQMD), of the State of California.
- B. The VOC limits defined by SCAQMD are as follows. All VOC limits are defined in grams per liter, less water and less exempt compounds.
- | | | |
|--------------------|---------------------------|-----|
| 1. Sealants: | | |
| a. | Architectural | 250 |
| b. | Non-membrane roof | 300 |
| c. | Roadway | 250 |
| d. | Single-ply roof membrane | 450 |
| e. | Other | 420 |
| 2. Sealant Primer: | | |
| a. | Architectural – Nonporous | 250 |
| b. | Architectural – Porous | 775 |
| c. | Other | 750 |

1.10 VOC REQUIREMENTS FOR INTERIOR PAINTS:

- A. Paints and Primers: Paints and primers used in non-specialized interior applications (i.e., for wallboard, plaster, wood, metal doors and frames, etc.) shall meet the VOC limitations of the Green Seal Paint Standard GS-11, of Green Seal, Inc., Washington, DC. Product-specific environmental requirements are as follows:
5. Volatile Organic Compounds:
- a. The VOC concentrations (in grams per liter) of the product shall not exceed those listed below as determined by U. S. Environmental Protection Agency (EPA) Reference Test Method 24.

Interior Paints and Primers:

Non-flat: 150 g/l

Flat: 50 g/l

The calculation of VOC shall exclude water and tinting color added at the point of sale.

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SEALANTS, PAINTS & COATINGS FOR LEED BUILDINGS

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- B. Anti-Corrosive and Anti-Rust Paints: Anti-corrosive and anti-rust paints applied to interior ferrous metal substrates shall meet the VOC limitations of the Green Seal Paint Standard GC-03, of Green Seal, Inc., Washington, DC. Product-specific environmental requirements are as follows:

1. Volatile Organic Compounds:

- a. The VOC concentrations (in grams per liter) of the product shall not exceed those listed below as determined by U. S. Environmental Protection Agency (EPA) Reference Test Method 24.

Anti-Corrosive and Anti-Rust Paints: 250 g/l

The calculation of VOC shall exclude water and tinting color added at the point of sale.

1.11 VOC REQUIREMENTS FOR INTERIOR COATINGS:

- A. Clear wood finishes, floor coatings, stains, sealers, and shellacs applied to the interior shall meet the VOC limitations defined in Rule 1113, "Architectural Coatings" of SCAQMD, of the State of California. The VOC limits defined by SCAQMD, based on 7/9/04 amendments, are as follows. VOC limits are defined in grams per liter, less water and less exempt compounds.

1. Clear Wood Finishes:	
a. Varnish	350
b. Sanding Sealers	350
c. Lacquer	550
2. Shellac:	
a. Clear	730
b. Pigmented	550
3. Stains	250
4. Floor Coatings	100
5. Waterproofing Sealers	250
6. Sanding Sealers	275
7. Other Sealers	200

The calculation of VOC shall exclude water and tinting color added at the point of sale.

1.12 SUBMITTALS:

- A. Submit Material Safety Data Sheets, for all applicable products in accordance with Section 01 33 00, SUBMITTAL PROCEDURES. Applicable products include, but are not limited to adhesives, sealants, carpets, paints and coatings. Material Safety Data Sheets shall indicate the Volatile Organic Compound (VOC) limits of products submitted. (If an MSDS does not include a product's VOC limits, then product data sheets, manufacturer literature, or a letter of certification from the manufacturer can be submitted in addition to the MSDS to indicate the VOC limits).
- B. Submit Environmental Building Materials Certification Form (EBMCF) as referenced in Section 01 81 13 SUSTAINABLE REQUIREMENTS FOR LEED BUILDINGS: For each field-applied adhesive, sealant, paint, and coating product, provide the VOC requirement, as provided in this Specification, for the relevant material category indicated on the documentation noted above.

PART II – PRODUCTS (Not Used)

PART III – EXECUTION (Not Used)

END OF SECTION 01 81 13.13



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SECTION 01 81 19
INDOOR AIR QUALITY REQUIREMENTS FOR LEED BUILDINGS

REFER TO THE ADDENDUM FOR APPLICABILITY OF THIS SECTION 01 81 19

PART I – GENERAL

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].

1.2 CONSTRUCTION IAQ MANAGEMENT GOALS FOR THE PROJECT:

- A. The City of New York has determined that this Project shall minimize the detrimental impacts on Indoor Air Quality (IAQ) resulting from construction activities. Factors that contaminate indoor air, such as dust entering HVAC systems and ductwork, improper storage of materials on-site, poor housekeeping, shall be minimized.

1.3 RELATED SECTIONS:

- A. All sections of the Specifications related to interior construction, MEP systems, and items affecting indoor air quality.
- B. Section 01 81 13, SUSTAINABLE DESIGN REQUIREMENTS FOR LEED BUILDINGS
- C. Section 01 81 13.13, VOLATILE ORGANIC COMPOUND (VOC) LIMITS FOR ADHESIVES, SEALANTS, PAINTS AND COATINGS.
- D. Division 9 (of the Specifications): Finishes.

1.4 DEFINITIONS:

- A. Refer to Article 2 of the Contract for definition of terms, words and expressions used in the General Conditions not otherwise defined herein.
- B. Design Consultant: "Design Consultant" shall mean the entity responsible for providing design services for the Project, including without limitation, preparing the construction documents (drawings and specifications) and providing services in connection with such documents during construction. The entity serving as the "Design Consultant" may be a corporation, firm, partnership, joint venture, individual or combination thereof. Such entity may be either an employee(s) of the City or an entity engaged by the City to provide such services.
- C. Volatile Organic Compounds (VOC's): Chemical compounds common in and emitted by many building products, including solvents in paints, coatings, adhesives and sealants, wood preservatives, composite wood binder, and foam insulations. Not all VOC's are harmful, but many of those contained within building products contribute to the formation of smog and may irritate building occupants by their smell and/or health impact.

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- D. Materials that act as "sinks" for VOC contamination: Absorptive materials, typically dry and soft materials (such as textiles, carpeting, acoustical ceiling tiles and gypsum board) that readily absorb VOC's emitted by "source" materials and release them over a prolonged period of time.
- E. Materials that act as "sources" for VOC contamination: Products with high VOC contents that emit VOC's either rapidly during application and curing (typically "wet" products, such as paints, sealants, adhesives, caulks and sealers) or over a prolonged period (typically "dry" products such as flooring coverings with plasticizers and engineered wood with formaldehyde).

1.5 REFERENCES, RESOURCES:

- A. "IAQ Guidelines for Occupied Buildings Under Construction", First Edition, November 1995, The Sheet Metal and Air Conditioner Contractors National Association (SMACNA). (703) 803-2980, www.smacna.org.
- B. ANSI/ASHRAE 52.2-1999, "Method of Testing General Ventilation Air-Cleaning Devices for Removal Efficiency by Particle Size", www.ashrae.org

1.6 LEED BUILDING GENERAL REQUIREMENTS:

- A. Implement practices and procedures as necessary to meet the project's environmental performance goals as set forth in the specific requirements of this section. Specific project goals that may impact this area of work include: use of recycled-content materials; use of low-emitting materials; construction waste recycling; and the implementation of a construction indoor air quality management plan. Ensure that the requirements related to these goals, as defined in this Section, are implemented to the fullest extent. Substitutions or other changes to the work shall not be allowed if such changes compromise the stated LEED BUILDING Performance Criteria.

1.7 CONSTRUCTION IAQ MANAGEMENT PLAN :

- A. The Contractor shall prepare a Construction IAQ Management Plan in coordination with each subcontractor and submit the IAQ Management Plan to the Commissioner for approval in accordance with Section 01 33 00, SUBMITTAL PROCEDURE. The Construction IAQ Management Plan shall meet the following criteria:
 - 1. Construction activities shall be planned to meet or exceed the minimum requirements of the Sheet Metal and Air Conditioning National Contractors' Association (SMACNA) "IAQ Guidelines for Occupied Buildings under Construction", First Edition, 1995.
 - 2. Absorptive materials shall be protected from moisture damage when stored on-site and after installation.
 - 3. If air handlers are to be used during construction, filtration media with a Minimum Efficiency Reporting Value (MERV) of 8 must be used at each return air grill, as determined by ASHRAE 52.2-1999.
 - 4. Filtration media shall be replaced immediately prior to occupancy. Filtration media shall have a Minimum Efficiency Reporting Value (MERV) of 13 as determined by ASHRAE 52.2-1999 if the project is pursuing Indoor Air Quality Credit 5: Indoor Chemical Pollutant Source Control.
 - 5. A "Sequence of Finish Installation Plan" shall be developed, highlighting measures to reduce the absorption of VOCs by materials that act as "sinks".
 - 6. Upon approval of the Plan by the Commissioner, it shall be implemented by the Contractor through the duration of the construction process, and documented in accordance with the Submittal Requirements of Sub-Section 1.8 herein.



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B. Further description of the Construction IAQ Management Plan requirements is as follows:

1. SMACNA Guidelines: Chapter 3 of the referenced "IAQ Guidelines for Occupied Buildings Under Construction", outline IAQ measures in five categories as listed below. The Construction IAQ Management Plan shall be organized in accordance with the SMACNA format, and shall address measures to be implemented in each of the five categories (including subsections). All subsections shall be listed in the Plan; items that are not applicable for this project should be listed as such.
 - a. HVAC Protection
 - 1) Protect air handling and distribution equipment and air supply and return ducting during construction.
 - 2) All ductwork arriving on site will be sealed with plastic sheeting and stored on pallets or dunnage until installed.
 - 3) Cover and protect all exposed air inlets and outlets, openings, grilles, ducts, plenums, etc. to prevent water, moisture, dust and other contaminant intrusion.
 - 4) Apply protection immediately after ducting.
 - 5) Protect ducting runs at the end of day's work.
 - 6) Inspect temporary filtration weekly and replace as required to maintain the proper ventilation rates in the building.
 - b. Source Control
 - 1) Protect stored on-site or installed absorptive or porous materials.
 - 2) Do not use wet or damaged porous materials in the building.
 - 3) Recover, isolate, and ventilate containers housing toxic materials and materials with VOC levels above the limits for interior adhesives, sealants, paints, and coatings described in these Specifications.
 - 4) Exhaust fumes from idling vehicles and gasoline fueled tools through use of funnels or temporary piping.
 - 5) Containers housing toxic materials and materials with VOC levels above the limits for interior adhesives, sealants, paints, and coatings described in these Specifications, shall be closed when not in use.
 - c. Pathway Interruption
 - 1) Depressurize work areas to contain dust and odors.
 - 2) Pressurize occupied spaces to prevent intrusion of dust and odors.
 - 3) Erect barriers to contain construction areas.
 - 4) Relocate pollutant sources.
 - 5) Temporarily seal the building and provide 100% outside air for ventilation.
 - d. Housekeeping
 - 1) Store materials on elevated platforms under cover, in a designated dry, clean location, prior to unpacking for installation.
 - 2) If materials are not stored in an enclosed location, cover tops and sides of material with waterproof sheeting, securely tied.
 - 3) Institute cleaning activities to remove contaminants from the building prior to occupancy. Clean all coils, air filters, and ductwork prior to performing testing, adjusting, and balancing of HVAC systems.
 - 4) Sweep the work area on a daily basis. Use an efficient and effective dust collecting method such as damp cloth, wet mop, or vacuum with particulate filters. Activities which produce high levels of dust shall be cleaned up immediately upon completion.
 - 5) Spills or excess applications of products containing solvents, or with VOC levels above the limits for interior adhesives, sealants, paints, and coatings described in these Specifications, must be removed immediately.
 - 6) Dust all walls prior to application of finishes.
 - 7) Vacuum all stud tracks prior to application of insulation.
 - 8) Materials which become contaminated through direct exposure to moisture from

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- precipitation, plumbing leaks, or condensation shall be replaced by the Contractor.
- e. Scheduling
 - 1) Phase construction such that absorptive materials are installed only in areas that are weathertight.
 - 2) Schedule activities that utilize "sources" of VOC contamination to take place prior to installing high absorbent materials that will act as "sinks" for contaminants.
 - 3) Review of the appropriate components of the Construction IAQ Management Plan shall be a regular action topic at weekly site coordination meetings. Implementation of the Plan shall be documented in the meeting minutes.
 2. Protection of Materials from Moisture Damage: As part of the "Housekeeping" section of the Construction IAQ Management Plan, measures to prevent installed materials or material stored on-site from moisture damage shall be described. This section should also describe measures to be taken if moisture damage does occur to absorptive materials during the course of construction.
 3. Replacement of Filtration Media: Under the "HVAC Protection" section of the Construction IAQ Management Plan, a description of the filtration media in all ventilation equipment shall be provided. The description shall include replacement criteria for filtration media during construction, and confirmation of filtration media replacement for all equipment immediately prior to occupancy.
 4. Sequence of Finish Installation for Materials: Where feasible, absorptive materials shall be installed after the installation of materials or finishes which have high short-term emissions of VOC's, formaldehyde, particulates, or other air-borne compounds. Absorptive materials include, but are not limited to: carpets; acoustical ceiling panels; fabric wall coverings; insulations (exposed to the airstream); upholstered furnishings; and other woven, fibrous or porous materials. Materials with high short-term emissions include, but are not limited to: adhesives, sealants and glazing compounds (specifically those with petrochemical vehicles or carriers); paints, wood preservatives and finishes; control and/or expansion joint fillers; hard finishes requiring adhesive installation; gypsum board (with associated finish processes and products); and composite or engineered wood products with formaldehyde binders.
 5. Develop and implement an Indoor Air Quality (IAQ) Management Plan for the pre-occupancy phase as follows:

OPTION 1 — Flush-Out

• After construction ends, prior to occupancy and with all interior finishes installed, perform a building flush-out by supplying a total air volume of 14,000 cu.ft. of outdoor air per sq.ft. of floor area while maintaining an internal temperature of at least 60 degrees F and relative humidity no higher than 60%.

OR

• If occupancy is desired prior to completion of the flush-out, the space may be occupied following delivery of a minimum of 3,500 cu.ft. of outdoor air per sq.ft. of floor area to the space. Once a space is occupied, it shall be ventilated at a minimum rate of 0.30 cfm/sq.ft. of outside air or the design minimum outside air rate determined in EQ Prerequisite 1, whichever is greater. During each day of the flush-out period, ventilation shall begin a minimum of three hours prior to occupancy and continue during occupancy. These conditions shall be maintained until a total of 14,000 cu.ft./sq.ft. of outside air has been delivered to the space.

OR



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OPTION 2 — Air Testing

- Conduct baseline IAQ testing, after construction ends and prior to occupancy, using testing protocols consistent with the United States Environmental Protection Agency Compendium of Methods for the Determination of Air Pollutants in Indoor Air and as additionally detailed in the LEED-NC Reference Guide.
- Demonstrate that the contaminant maximum concentrations listed below are not exceeded.

CONTAMINANT	MAXIMUM CONCENTRATION
Formaldehyde	27 parts per billion
Particulates (PM10)	50 micrograms per cubic meter
Total Volatile Organic Compounds (TVOC)	500 micrograms per cubic meter
* 4-Phenylcyclohexene (4-PCH)	6.5 micrograms per cubic meter
Carbon Monoxide (CO)	9 part per million and no greater than 2 parts per million above outdoor levels
* This test is only required if carpets and fabrics with styrene butadiene rubber (SBR) latex backing material are installed as part of the base building systems.	

- For each sampling point where the maximum concentration limits are exceeded, conduct additional flush-out with outside air and retest the specific parameter(s) exceeded to indicate the requirements are achieved. Repeat procedure until all requirements have been met. When retesting non-complying building areas, take samples from the same locations as in the first test.
- The air sample testing shall be conducted as follows:
 - a. All measurements shall be conducted prior to occupancy, but during normal occupied hours and with the building ventilation system starting at the normal daily start time and operated at the minimum outside air flow rate for the occupied mode throughout the duration of the air testing.
 - b. The building shall have all interior finishes installed, including but not limited to millwork, doors, paint, carpet and acoustic tiles. Non-fixed furnishings such as workstations and partitions are encouraged, but not required, to be in place for the testing.
 - c. The number of sampling locations will vary depending upon the size of the building and number of ventilation systems. For each portion of the building served by a separate ventilation system, the number of sampling points shall not be less than one per 25,000 sq.ft., or for each contiguous floor area, whichever is larger, and include areas with the least ventilation and greatest presumed source strength.
 - d. Air samples shall be collected between 3 feet and 6 feet from the floor to represent the breathing zone of occupants, and over a minimum 4-hour period.
- 6. Implementation and Coordination: Implement the Construction IAQ Management Plan, and coordinate the Plan with all affected trades. Designate one individual as the Construction IAQ Representative at no additional cost to the City of New York, who will be responsible for communicating the progress of the Plan with the Commissioner on a regular basis, and for assembling the required LEED documentation. Include provisions in the Construction IAQ Management Plan for addressing conditions in the field that do not adhere to the Plan, including provisions to implement a stop work order, or to rectify non-compliant conditions.



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- a. Distribution: The Contractor shall distribute copies of the Construction IAQ Management Plan in accordance with Section 01 33 00, SUBMITTAL PROCEDURES.
- b. Instruction: The Contractor shall provide on-site instruction of appropriate site management to all Contractor's Subcontractors.
- c. Monitoring: The Construction IAQ Representative shall monitor the implementation of the Construction IAQ Management Plan.

1.8 SUBMITTALS:

Submit the following LEED-required records and documents in accordance with Section 01 33 00, SUBMITTAL PROCEDURES and Section 01 81 13, SUSTAINABLE DESIGN REQUIREMENTS FOR LEED BUILDINGS.

- A. A copy of the Construction IAQ Management Plan as defined in Sub-Section 1.07 herein.
- B. Product cut-sheets for all filtration media used during construction and installed immediately prior to occupancy, with MERV values highlighted. Cut sheets shall be submitted with the Contractor's or Subcontractor's 'approved' stamp as confirmation that the products are the products installed on the project.
- C. Provide the Commissioner with a minimum of 18 photographs as required under the provision for Special Photographs, in accordance with Section 01 32 33, PHOTOGRAPHIC DOCUMENTATION, comprised of at least six photographs taken on three different occasions during construction. The photographs shall document the implementation of the Construction IAQ Management Plan throughout the course of the project construction. Examples include photographs of ductwork sealing and protection, temporary ventilation measures, and conditions of on-site materials storage (to prevent moisture damage). Photographs shall include integral date stamping, and shall be submitted with brief descriptions of the Construction IAQ Management Plan measure documented, or be referenced to project meeting minutes or similar project documents which reference to the Construction IAQ Management Plan measure documented.
- D. A copy of the project's TAQ Testing report if applicable.

1.9 QUALITY ASSURANCE:

- A. The Contractor shall be responsible for preparing and implementing the Construction IAQ Management Plan and shall coordinate and incorporate the work of its subcontractors in the IAQ Management Plan.
- B. Responsibility of Subcontractors: Subcontractors for this project shall be responsible to cooperate with the Contractor in the preparation and implementation of the Construction IAQ Management Plan.

PART II – PRODUCTS (Not Used)

PART III – EXECUTION (Not Used)

END OF SECTION 01 81 19



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SECTION 01 91 13
GENERAL COMMISSIONING REQUIREMENTS

REFER TO THE ADDENDUM FOR APPLICABILITY OF THIS SECTION 01 91 13

PART I – GENERAL

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].
- B. OPR and BoD documentation are included by reference for information only.
- C. The Commissioning Plan, prepared by the Commissioning Agent (CxA) under separate contract with the City of New York, contains requirements that apply to this section.

1.2 SUMMARY:

- A. This Section includes general requirements that apply to implementation of Commissioning without regard to systems, subsystems, and equipment being commissioned.
- B. This Section includes:
 - 1. Definitions
 - 2. Commissioning Team
 - 3. City's Responsibilities
 - 4. Each Contractor's Responsibilities
 - 5. Commissioning Authority's/Agent's (CxA) Responsibilities
 - 6. Commissioning Documentation
 - 7. Submittals
 - 8. Coordination

1.3 RELATED SECTIONS: Include without limitation the following:

- A. "HVAC Commissioning Requirements" indicated in other sections of the project specifications for specific requirements for commissioning HVAC systems.
- B. This project will be commissioned by an independent third party under separate contract with the City of New York. Commissioning shall be in accordance with ASHRAE and USGBC LEED procedures, and specific commissioning requirements of the Project Specifications, whichever is more stringent. The Contractor shall cooperate with the CxA and provide whatever assistance is required.
- C. Related Sections include without limitation the following:
 - 1. Section 01 10 00 SUMMARY
 - 2. Section 01 31 00 PROJECT MANAGEMENT AND COORDINATION
 - 3. Section 01 32 00 CONSTRUCTION PROGRESS DOCUMENTATION
 - 4. Section 01 78 39 CONTRACT RECORD DOCUMENTS
 - 5. Section 01 79 00 DEMONSTRATION AND OWNERS PRE-ACCEPTANCE ORIENTATION
 - 6. Section 01 81 13 SUSTAINABLE DESIGN REQUIREMENTS FOR LEED BUILDINGS

1.4 DEFINITIONS:

- A. Refer to Article 2 of the Contract for definition of terms, words and expressions used in the General Conditions not otherwise defined herein.



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- B. Design Consultant: "Design Consultant" shall mean the entity responsible for providing design services for the Project, including without limitation, preparing the construction documents (drawings and specifications) and providing services in connection with such documents during construction. The entity serving as the "Design Consultant" may be a corporation, firm, partnership, joint venture, individual or combination thereof. Such entity may be either an employee(s) of the City or an entity engaged by the City to provide such services.
- C. Commissioner: The Commissioner of the Department of Design and Construction of the City of New York, his/her successors, or duly authorized representative(s).
- D. BoD: Basis of Design: A document, prepared by the Consultant Architect/Engineer, that records concepts, calculations, decisions, and product selections used to meet the OPR and to satisfy applicable regulatory requirements, standards, and guidelines. The document includes both narrative descriptions and lists of individual items that support the design process.
- E. Commissioning Plan: A document that outlines the organization, schedule, allocation of resources, and documentation requirements of the commissioning process.
- F. CxA: Commissioning Agent (Aka Commissioning Authority) under separate contract with the City of New York to provide Commissioning Services for this project.
- G. OPR: Owner's (City of New York) Project Requirements: A document, prepared by the Consulting Architect/Engineer) that details the functional requirements of a project and the expectations of how it will be used and operated. These include Project goals, measurable performance criteria, cost considerations, benchmarks, success criteria, and supporting information.
- H. Systems, Subsystems, Equipment, and Components: Where these terms are used together or separately, they shall mean "as-built" systems, subsystems, equipment, and components.
- I. TAB: Testing, Adjusting, and Balancing.

1.5 COMMISSIONING TEAM:

- A. Members Appointed by the Contractor and its Subcontractors: Individuals, each having authority to act on behalf of the entity he or she represents, explicitly organized to implement the commissioning process through coordinated actions. The commissioning team shall consist of, but not be limited to, representatives of the Contractor, including Project superintendent and subcontractors, installers, suppliers, and specialists deemed appropriate by the CxA.
- B. Members Appointed by the City:
 - 1. Commissioning Authority/Agent (CxA): The designated person, company, or entity under separate contract with the City that plans, schedules, and coordinates the commissioning team to implement the commissioning process.
 - 2. Representatives of the facility user and operation and maintenance personnel.
 - 3. Consultant Architect/Engineer and other concerned entities.

1.6 CITY'S RESPONSIBILITIES:

- A. Provide the OPR documentation to the Commissioning Agent (CxA) for use in developing the commissioning plan; systems manual; operation and maintenance training plan; and testing plans and checklists.
- B. Assign operation and maintenance personnel and schedule them to participate in commissioning team activities.



- C. Provide the BoD documents, prepared by the Consulting Architect/Engineer and approved by the Commissioner, to the Commissioning Agent (CxA) for use in developing the commissioning plan, systems manual, and operation and maintenance training plan.

1.7 CONTRACTOR'S RESPONSIBILITIES:

- A. The Contractor shall provide utility services required for the commissioning process.
- B. As a member of the Commissioning Team, the Contractor and subcontractor(s) shall assign representatives with expertise and authority to act on behalf of the Contractor and its subcontractor(s) and schedule them to participate in and perform commissioning team activities including, but not limited to, the following:
 - 1. Participate in scheduled construction-phase coordination and commissioning team meetings.
 - 2. Integrate and coordinate commissioning process activities with the construction schedule.
 - 3. Review and accept commissioning process test procedures provided by the CxA.
 - 4. Review and accept construction checklists provided by the CxA.
 - 5. Perform testing required in the Commissioning Schedule as per the Commissioning Process test procedures provided by the CxA.
 - 6. Complete installation checklists as Work is completed and return to CxA through the Resident Engineer.
 - 7. Cooperate with the CxA for resolution of issues recorded in the Issues Log.
 - 8. Evaluate performance deficiencies identified in test reports and, in collaboration with entity responsible for system and equipment installation, recommend corrective action.
 - 9. Submit As-Built documents, operation and maintenance manuals for systems and subsystems, and equipment in accordance with Section 01 78 39, CONTRACT RECORD DOCUMENTS.
 - 10. Provide orientation sessions for operation and maintenance personnel (sessions will be video recorded by the CxA) in accordance with Section 01 79 00, DEMONSTRATION AND OWNER'S PRE-ACCEPTANCE ORIENTATION.

1.8 COMMISSIONING AGENT'S (CxA) RESPONSIBILITIES:

- A. Organize and lead the commissioning team.
- B. Prepare a construction-phase commissioning plan. Collaborate through the Resident Engineer with each Contractor and with subcontractors to develop test and inspection procedures. Include design changes and coordinate commissioning activities with the overall Project schedule. Identify commissioning team member responsibilities, by name, firm, and trade specialty, for performance of each commissioning task.
- C. Review and comment in accordance with Section 01 33 00, SUBMITTAL PROCEDURES, on submittals from the Contractor for compliance with the OPR, BoD, Contract Documents, and construction-phase commissioning plan. Review and comment on performance expectations of systems and equipment and interface between systems relating to the OPR and BoD.
- D. Coordinate with the Resident Engineer to convene commissioning team meetings for the purpose of coordination, communication, and conflict resolution; discuss progress of the commissioning processes. Responsibilities include arranging for facilities, preparing agenda and attendance lists, and notifying participants. The Commissioning Agent CxA will prepare and distribute minutes to commissioning team members and attendees within three workdays of the commissioning meeting.
- E. At the beginning of the construction phase, coordinate with the Resident Engineer's kick-off meeting schedule to conduct an initial construction-phase coordination meeting for the purpose of reviewing the commissioning activities and establishing tentative schedules for operation and maintenance submittals, operation and maintenance training sessions, TAB Work, and Project completion.



- F. Observe and inspect construction. Report progress and deficiencies to the Commissioner. In addition to compliance with the OPR, BoD, and Contract Documents, inspect systems and equipment installation for adequate accessibility required for component maintenance replacement and repair.
- G. Prepare Project-specific test and inspection procedures and checklists.
- H. Coordinate with the Resident Engineer to schedule, direct, witness, and document tests, inspections, and systems startup.
- I. Compile test data, inspection reports, and certificates and include them in the systems manual and commissioning report.
- J. Certify date of acceptance and startup for each item of equipment for start of warranty periods.
- K. Review and comment on operation and maintenance documentation and systems manual outline for compliance with the OPR, BoD, and Contract Documents. Operation and maintenance documentation requirements are specified in other sections of the project specifications and described in Section 01 78 39, CONTRACT RECORD DOCUMENTS.
- L. Record and edit demonstration and orientation sessions on DVD.
- M. Prepare commissioning reports.
- N. Assemble the final commissioning documentation, including the commissioning report and Systems Manual.

1.9 COMMISSIONING DOCUMENTATION:

The Contractor shall assist the Commissioning Agent (CxA) in the development and compiling of the following Commissioning Documentation:

- A. Index of Commissioning Documents: The Commissioning Agent (CxA) will prepare an index including the storage location of each document.
- B. OPR: A written document prepared by the Commissioning Agent (CxA) that details the functional requirements of the Project and expectations of how it will be used and operated. This document includes the Project and design goals, measurable performance criteria, budgets, schedules, success criteria, and supporting information.
- C. BoD Document: A document prepared by the Consulting Architect/Engineer that records concepts, calculations, decisions, and product selections used to meet the OPR and to satisfy applicable regulatory requirements, standards, and guidelines. The document includes both narrative descriptions and lists of individual items that explain the designed systems.
- D. Commissioning Plan: A document prepared by the Commissioning Agent (CxA) that outlines the schedule, allocation of resources, and documentation requirements of the commissioning process.
- E. Test Checklists: The Commissioning Agent (CxA) will develop test checklists for each system, subsystem, or equipment including interfaces and interlocks, and include a separate entry, with space for comments, for each item to be tested. The CxA will prepare separate checklists for each mode of operation and provide space to indicate whether the mode under test responded as required. Space will be provided for testing personnel to sign off on each checklist. Specific checklist content requirements are specified in other sections of the project specifications.
- F. Inspection Checklists will be signed by the Contractor, Subcontractor(s), Installer(s), and CxA certifying that systems, subsystems, equipment, and associated controls are ready for testing.
- G. Test and Inspection Reports: The Commissioning Agent (CxA) will record test data, observations, and measurements on test checklists. Photographs, forms, and other means appropriate for the application will be included with data. CxA shall compile test and inspection reports and test and inspection certificates and include them in systems manual and commissioning report.



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- H. Corrective Action Documents: The Commissioning Agent (CxA) will document corrective action taken for systems and equipment that fail tests and include required modifications to systems and equipment and revisions to test procedures, if any. The Contractor shall retest systems and equipment requiring corrective action. The CxA will document retest results.
- I. Issues Log: The Commissioning Agent (CxA) will prepare and maintain an issues log that describes design, installation, and performance issues that are at variance with the OPR, BoD, and Contract Documents. The log will identify and track issues as they are encountered, documenting the status of unresolved and resolved issues.
 - 1. Commissioning Report: The Commissioning Agent (CxA) will document results of the commissioning process including unresolved issues and performance of systems, subsystems, and equipment. The commissioning report will indicate whether systems, subsystems, and equipment have been completed and are performing according to the OPR, BoD, and Contract Documents.
- J. Systems Manual: The Commissioning Agent (CxA) will gather required information and compile systems manual as specified in other sections of the project specifications and described in Section 01 78 39, CONTRACT RECORD DOCUMENTS..

1.10 SUBMITTALS:

- A. Commissioning Plan Pre-final Submittal: The Commissioning Agent (CxA) will submit six (6) copies of the pre-final commissioning plan to the Commissioner for review and distribution.
- B. Commissioning Plan Final Submittal: The Commissioning Agent (CxA) will submit six (6) hard copies and electronically formatted information of the final commissioning plan to the Commissioner. The final submittal will address previous review comments.
- C. Test and Inspection Reports: CxA will submit test and inspection reports.
- D. Corrective Action Documents: CxA will submit corrective action documents.

1.11 COORDINATION:

- A. Coordinating Meetings: The Commissioning Agent (CxA) will coordinate with the Resident Engineer's regularly scheduled construction progress meetings to conduct coordination meetings of the commissioning team to review progress on the commissioning plan, to discuss scheduling conflicts, and to discuss upcoming commissioning process activities.
- B. Pre-testing Meetings: The Commissioning Agent (CxA) will coordinate with the Resident Engineer to conduct pretest meetings of the commissioning team to review startup reports, pretest inspection results, testing procedures, testing personnel and instrumentation requirements, and manufacturers' authorized service representative services for each system, subsystem, equipment, and component to be tested.
- C. Testing Coordination: The Commissioning Agent (CxA) will coordinate with the Resident Engineer the sequence of testing activities to accommodate required quality-assurance and -control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.
 - 1. Coordinate schedule times with the Resident Engineer for tests, inspections, obtaining samples, and similar activities.
- D. Manufacturers' Field Services: The Commissioning Agent (CxA) will coordinate services of manufacturers' field services.

PART II – PRODUCTS (Not Used)



PART III – EXECUTION

3.1 OPERATION & MAINTENANCE MANUALS

- A. General
 - 1. The CxA shall review the Operation & Maintenance manuals provided by the Contractor or subcontractors for completeness of the document. The review process shall verify that Operation & Maintenance instructions meet specifications and are included for all commissioned equipment furnished by the Contractor.
 - 2. Published literature shall be specifically oriented to the provided equipment, indicating required operation and maintenance procedures, parts lists, assembly / disassembly diagrams and related information.
 - 3. The Contractor shall incorporate the standard technical literature into system specific formats for this facility as designed and as actually installed. The resulting Operation & Maintenance information shall be system specific, concise, to the point and tailored specifically to this facility. The CxA shall review these documents as necessary for final corrections by the Contractor.
- B. The Operation & Maintenance Manual review and coordination efforts shall be completed prior to Owner orientation sessions, as these documents are to be utilized in the training sessions.
- C. System Operations Manual
 - 1. The CxA shall prepare and deliver these documents with inputs from other agencies. The contractors will confirm the proper documents are onsite and readily available. Typically, the manual includes the following:
 - a. Commissioned systems single line diagrams (Mechanical, Electrical, Plumbing, and Building Management System (BMS) subcontractors).
 - b. As built sequences of operations, control drawings and original set points (Design Consultant and BMS subcontractor)
 - c. Operating instructions for integrated building systems (mechanical and BMS subcontractors).
 - d. Recommended schedule of maintenance requirements and frequency (subcontractors).
 - e. Recommended schedule for calibrating sensors and actuators (BMS subcontractor)

3.2 DEMONSTRATION AND INSTRUCTION

- A. The Contractor shall schedule and coordinate instruction sessions for the facility's staff for each commissioned system. Demonstrations shall be held per Contract Documents, along with the appropriate schematics, handouts and visual / audio training aids onsite with equipment.
- B. The equipment vendors shall provide instruction on the specifics of each major equipment item including philosophy, troubleshooting and repair techniques.
- C. For additional prescription pertinent to instruction, refer to other specific divisions for demonstration and instruction requirements.

3.3 WARRANTY REVIEW / SEASONAL TESTING

- A. The CxA will return upon the start of the new season (cooling or heating) after project completion to conduct performance tests that could not be performed due to ambient conditions. The seasonal testing will only be performed if unsuitable loads / conditions were unavailable during the performance testing stages (in other words; the requirement for testing is warranted).
- B. If agreed upon by facility, Seasonal Testing can also be used for the Warranty Review. During which the CxA will interview the occupants, maintenance staff, review the operation of the building, provide recommendations for installation and operational problems and document warranty and operational issues in the issues database.



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3.4 RECORD DRAWINGS

- A. The CxA shall review the as built contract documents to verify incorporation of both design changes and as built construction details. Discrepancies noted shall be corrected by the appropriate party.

END OF SECTION 01 91 13



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**THE CITY OF NEW YORK
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30-30 THOMSON AVENUE
TELEPHONE (718) 391-1000

LONG ISLAND CITY, NEW YORK 11101-3045
WEBSITE www.nyc.gov/buildnyc



**Department of
Design and
Construction**

Contract for Furnishing all Labor and Material Necessary

Contractor

Dated _____, 20____

Approved as to Form
Certified as to Legal Authority

Acting Corporation Counsel

Dated _____, 20____

Entered in the Comptroller's Office

First Assistant Bookkeeper

Dated _____, 20____





FMS ID: CO277ELV2



Department of
Design and
Construction

**THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF PUBLIC BUILDINGS**

30-30 THOMSON AVENUE LONG ISLAND CITY, NEW YORK 11101-3045
TELEPHONE (718) 391-1000 WEBSITE www.nyc.gov/buildnyc

Contract for Furnishing all Labor and Material Necessary and Required for:

CONTRACT NO. 1 GENERAL CONSTRUCTION WORK

**Court Square Courthouse Elevator
Modernization and Upgrades**

LOCATION: 25-10 Court Square
BOROUGH: Queens 11101
CITY OF NEW YORK

Knightbridge Construction Corp.
Contractor

Dated April 27, 20 17

Approved as to Form
Certified as to Legal Authority

[Signature]
Acting Corporation Counsel

Dated August 22, 20 16

Entered in the Comptroller's Office

First Assistant Bookkeeper

Dated _____, 20 _____

Ref 8/22/16





Department of
Design and
Construction

PROJECT ID:

CO277ELV2

**THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF PUBLIC BUILDINGS**

30-30 THOMSON AVENUE
LONG ISLAND CITY, NEW YORK 11101-3045
TELEPHONE (718) 391-1000
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VOLUME 3 OF 3

**ADDENDUM TO THE GENERAL
CONDITIONS**

SPECIFICATIONS

FOR FURNISHING ALL LABOR AND MATERIALS
NECESSARY AND REQUIRED FOR:

**Court Square Courthouse Elevator
Modernization and Upgrades**

LOCATION:
BOROUGH:
CITY OF NEW YORK

25-10 Court Square
Queens 11101

CONTRACT NO. 1

GENERAL CONSTRUCTION WORK

DCAS

WSP Group

Date:

June 28, 2016





THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF PUBLIC BUILDINGS

ADDENDUM TO THE GENERAL CONDITIONS
FOR SINGLE CONTRACT PROJECTS

The General Conditions are hereby amended in accordance
with the terms and conditions set forth in this Addendum.

I. PROJECT DESCRIPTION

FMS #: **CO277ELV2**
PROJECT NAME: **Court Square Courthouse Elevator Modernization and Upgrades**

PROJECT DESCRIPTION: This Project consists of the modernization and upgrades of two passenger elevators located in the building to bring the elevator system up to local code. The two elevators have been problematic for many years and desperately need to be renovated. In general, the scope of work with this project includes:

- New hoist machine including electrical motor with all accessories, elevator controller, selector and power drive, elevator cab including enclosure, door, cab door operator and cab fixtures and elevator cab flooring and sub flooring.
- Also provide new related mechanical and electrical work including cooling and heating of the elevator machine room, hoist way venting and smoke detection, new feeders to the elevator machine room utilizing existing 2" conduits from existing panel DPB to feed the elevator equipment, new cameras in elevator cabs, new power supplies in elevator machine rooms for video surveillance cameras and new Ethernet-Fiber Optic media converters in the existing Main IT Room.

PROJECT LOCATION: **25-10 Court Square**
BOROUGH: **Queens**
CITY OF NEW YORK
ZIP CODE: **11101**
COMMUNITY BOARD #:
LANDMARK STATUS:

DESIGNATED LANDMARK STRUCTURE OR SITE: **YES**

If this is a Designated Landmark Structure or Site, Section 01 3591, Historic Treatment Procedures applies to this project.

LANDMARK QUALITY STRUCTURE: **YES**

If this is a Landmark Quality Structure, Section 01 3591, Historic Treatment Procedures applies to this project.

II. LEED GREEN BUILDING REQUIREMENTS

Not Used

III. COMMISSIONING REQUIREMENTS

Not Used

IV. PROJECT MANAGEMENT

☒ DDC shall publicly bid and enter into all contracts for the Project. DDC shall manage the Project using its own personnel.

☐ DDC shall publicly bid and enter into all contracts for the Project. A Construction Management firm (the "CM") hired by DDC shall manage the Project. The Contractor is advised that the CM shall serve as the representative of the Commissioner at the site and shall, subject to review by the Commissioner, be responsible for the inspection, management, coordination and administration of the required construction work, as delineated in the article of the Standard Construction Contract entitled "The Resident Engineer".

V. CONTRACTS FOR THE PROJECT

The Project consists of a single contract, the Contract for General Construction Work. The Contractor for General Construction Work is responsible for the performance of all required work for the Project as set forth in the Contract Documents (General Conditions, Drawings and Specifications), including all responsibilities and obligations assigned to separate Contractors for the following subdivisions of the work: Plumbing Work, HVAC Work, and Electrical Work. All responsibilities and obligations in the Contract Documents assigned to separate Contractors for such subdivisions of the work are the responsibility of the Contractor for General Construction Work.

VI. SCHEDULES

The Contractor is advised that Schedules A through F are attached to, and incorporated as part of, this Addendum to the General Conditions. These schedules contain important information that is specific to this Project. The Contractor is advised to carefully review these schedules.

VII. APPLICABILITY OF SECTIONS/SUB-SECTIONS AND AMENDED SUB-SECTIONS

The Contractor is advised that various Sections/Sub-Sections in the General Conditions may not apply to this Project or may apply as amended. Such Sections/Sub-Sections advise the Contractor to "Refer to the Addendum for the applicability of this Section/Sub-Section." Such Sections/Sub-Sections are set forth below. A check mark indicates whether the Section/Sub-Section (1) applies to the Project, (2) does not apply to the Project, or (3) applies to the Project as amended. If no box is checked, the Section/Sub-Section, as set forth in the General Conditions, applies to the Project. Amended Sections/Sub-Sections, if any, are set forth following this list of Sections.

<u>Section</u>	<u>Sub-Section</u>	<u>Sub-Section</u>	<u>Applies</u>	<u>Does not Apply</u>	<u>Applies as Amended</u>
01 1000	1.4 (B)	Scope and Intent / LEED		X	
	1.4(C)	Scope and Intent / Commissioning		X	
01 3233		Photographic Documentation	X		
01 3300	1.7 (A-D)	LEED Submittals		X	
01 3503		General Mechanical Requirements	X		
01 3506	3.2 (A-B)	Electrical Conduit System Including Boxes (Pull, Junction and Outlet)	X		
	3.3 (A-E)	Electrical Wiring Devices	X		
	3.4 (A-I)	Electrical Conductors and Terminations	X		
	3.5 (A-B)	Circuit Protective Devices	X		
	3.6 (A-J)	Distribution Centers	X		
	3.7 (A-I)	Motors	X		
	3.8 (A-I)	Motor Control Equipment	X		
01 3591		Historic Treatment Procedures	X		
01 5000	3.2 (A)	Temporary Water Facilities / Temporary Water		X	
	3.2 (B)	Temporary Water Facilities / Temporary Water – Work in Existing Facilities	X		
	3.3 (B)	Temporary Sanitary Facilities / Self-Contained Toilet Units		X	
	3.3 (C)	Temporary Sanitary Facilities / Existing Toilets	X		

<u>Section</u>	<u>Sub-Section</u>	<u>Sub-Section</u>	<u>Applies</u>	<u>Does not Apply</u>	<u>Applies as Amended</u>
01 5000	3.4 (B) 1	Temporary Power, Lighting, and Site Lighting / Connection to Utility Lines		X	
	3.4 (B) 2	Temporary Power, Lighting, and Site Lighting / Connection to Existing Electrical Power Service	X		
	3.4 (B) 3	Temporary Power, Lighting, and Site Lighting / Electrical Generator Power Service		X	
	3.4 (D)	Temporary Power, Lighting, and Site Lighting / Temporary Lighting	X		
	3.4 (E)	Temporary Power, Lighting, and Site Lighting / Site Security Lighting (for New Construction Only)		X	
	3.5 (A-J)	Temporary Heat		X	
	3.8 (A)	DDC Field Office / Office Space in Existing Building		X	
	3.8 (B)	DDC Field Office / DDC Field Office Trailer		X	
	3.8 (B-3a)	DDC Field Office / DDC Managed Field Office Trailer	X		
	3.8 (B-3b)	DDC Field Office / CM Managed Field Office Trailer		X	
	3.8 (D)	DDC Field Office / Additional Equipment for the DDC Field Office	X		
	3.13(A-D)	Work Fence Enclosure		X	
	3.17(B)	Project Rendering		X	
	3.18 (A-C)	Security Guards / Fire Guards on Site	X		
01 5411	3.1 (A-J)	Temporary Use, Operation and Maintenance of Elevators During Construction for New Buildings Up To and Including 15 Stories		X	
	3.2 (A-M)	Temporary Use, Operation and Maintenance of Elevators During Construction for New Buildings Over 15 Stories		X	
	3.3 (A-E)	Temporary Use, Operation and Maintenance of Elevators During Construction for Existing Buildings	X		
01 7300	3.3 (A-I)	Surveys	X		
	3.4 (A-B)	Borings		X	
	3.12 (A-D)	Sleeves and Hangers	X		
	3.13 (A)	Sleeve and Penetration Drawings	X		
	3.15 (A)	Location of Partitions	X		
01 7419	1.5 (C)	Waste Management Performance Requirements / LEED Certification		X	
01 7900		Demonstration and Owner's Pre-Acceptance Orientation	X		
01 8113		Sustainable Design Requirements for LEED Buildings		X	
01 8113.13		VOC Limits for Adhesives, Sealants, Paints and Coatings for LEED Buildings		X	
01 8119		Indoor Air Quality Requirements for LEED Buildings		X	
01 9113		General Commissioning Requirements	X		

VIII. SPECIAL EXPERIENCE REQUIREMENTS FOR THE PROJECT

- (1) **GENERAL:** Special Experience Requirements for the Project are set forth below. Such Special Experience Requirements may apply to either or both of the following entities: (a) the contractor or subcontractor that will perform specific areas of work, and/or (b) the manufacturer that will provide specific material or equipment.
- (2) **REVISION OF SPECIFICATIONS AND DRAWINGS:** In the event the Specifications and/or the Contract Drawings contain any Special Experience Requirements that are not set forth below, such Special Experience Requirements are deemed deleted, except as otherwise expressly provided in Section VIII of this Addendum.
- (3) **SPECIAL EXPERIENCE REQUIREMENTS FOR SPECIFIC AREAS OF WORK:** The Special Experience Requirements set forth below apply to the contractor or subcontractor that will perform specific areas of work. Compliance with such Special Experience Requirements will be evaluated after an award of contract. Within two (2) weeks of such award, the contractor will be required to submit the qualifications of the contractor or subcontractor that will perform these specific areas of work. If the contractor intends to perform any specific area of work with its own forces, it must demonstrate compliance with the Special Experience Requirements. If the contractor intends to subcontract any specific area of work, the proposed subcontractor(s) must demonstrate compliance with the Special Experience Requirements. Once approved, no substitution will be permitted, unless the qualifications of the proposed replacement have been approved in writing in advance by the City.

Special Experience Requirement #1: The contractor or subcontractor performing the work of this section must, within the last five (5) consecutive years prior to the bid opening, have successfully completed in a timely fashion at least three (3) projects similar in scope and type to the required work, based on architectural style, construction method and materials and age of building for this particular project. One such prior project of the three must have involved a landmarked building, as officially designated by the City, State or federal government.

General Construction:

- Section 14 21 23: Elevator Traction Elevators

IX. REVISIONS: SPECIFICATIONS AND CONTRACT DRAWINGS

The Specifications and the Contract Drawings for the Project are revised in accordance with the provisions set forth below.

- (1) Owner: Wherever the term "Owner" is used in the Specifications and/or the Contract Drawings, such term shall mean the City of New York.
- (2) Other Entities: In the event any entity other than the City of New York is referred to or named as the "Owner" in the Specifications and/or the Contract Drawings, the name of such other entity is deemed deleted and replaced with the "City of New York".
- (3) Architect / Engineer: Wherever the words "Architect", "Engineer", "Architect / Engineer" or "Architect and/or Engineer" are used in the Specifications and/or the Contract Drawings, such words are deemed deleted and replaced with the word "Commissioner".
- (4) Products / Manufacturers: Wherever the Specifications and/or the Contract Drawings require the contractor to provide a particular product (i.e., material and/or equipment) from a designated manufacturer and/or vendor, the term "or approved equal" is deemed inserted, even if only one product and/or manufacturer is specified, except as otherwise provided below.
 - (a) Proprietary Items: If the Bid Booklet contains a Notice which identifies a particular product from a designated manufacturer as a "Proprietary Item", the Contractor shall be required to provide such specified product. In such case, no substitution or "approved equal" will be permitted.
- (5) Special Experience Requirements: Special Experience Requirements for the Project, if any, are set forth in the Bid Booklet. Special Experience Requirements may apply to contractors, subcontractors, installers, manufacturers and/or suppliers. If the Specifications and/or the Contract Drawings contain any Special Experience Requirement that is not set forth in the Bid Booklet, such Special Experience Requirement is deemed deleted, except as otherwise provided below.
 - (a) Any Special Experience Requirement that provides that the entity performing the work or supplying the material must have more than three (3) years of experience, is revised to provide that the entity performing the work or supplying the material must have three (3) years of experience, except as described in paragraph (b) below.
 - (b) Any Special Experience Requirement that pertains to the abatement of hazardous materials shall not be subject to the deletion and/or revision set forth above. Such Special Experience Requirement shall remain in full force and effect.
 - (c) Any Special Experience Requirement that provides that the entity performing the work must be licensed, authorized, certified, approved by or acceptable to the manufacturer, is deemed deleted and replaced with the requirement that such entity must be properly trained for the specified work.
 - (d) Any Special Experience Requirement that provides that the individual workers performing the work must be licensed, authorized, certified, approved by or acceptable to the manufacturer, is deemed deleted and replaced with the requirement that such individual workers must be properly trained for the specified work.
- (6) Alternate Bids: If the agency is requesting the submission of Alternate Bids, a Notice regarding such Alternate Bids is set forth in the Bid Booklet. In the event of any conflict or inconsistency between (1) the Notice regarding Alternate Bids set forth in the Bid Booklet and (2) a provision in the Specifications and/or the Contract Drawings regarding Alternate Bids, the Notice set forth in the Bid Booklet shall prevail. If the agency is not requesting the submission of Alternate Bids, as indicated by the absence of a Notice in the Bid Booklet, and the Specifications and/or the Contract Drawings contain any provision regarding Alternate Bids, such provision is deemed deleted.
- (7) Contractor Retained Engineer: If the Specifications and/or the Contract Drawings require the Contractor to retain an Engineer to provide engineering services for the Project, the following sentence is deemed inserted: "Such Engineer must be a Professional Engineer, licensed in the State of New York."

- (8) LEED Related Provisions: If the Specifications and/or the Contract Drawings require the Contractor to purchase FSC certified wood, rapidly renewable materials, or materials within 500 miles, such provisions are deemed deleted and replaced with the requirement that if the contractor has purchased FSC certified wood, rapidly renewable materials, or materials within 500 miles, the contractor shall submit such forms or documentation as may be required by the City in order for the USGBC to certify that the Project qualifies for the related LEED credit(s).
- (9) Guarantees: Requirements for Guarantees and Maintenance are set forth in Schedule B, which is included in the Addendum to the General Conditions. In the event of any conflict or inconsistency between (1) a guarantee and/or maintenance requirement set forth in the Specifications and/or the Contract Drawings and (2) a guarantee and/or maintenance requirement set forth in Schedule B, the guarantee and/or maintenance requirement set forth in Schedule B shall prevail.
- (10) Warranties: Requirements for Warranties are set forth in Schedule B, which is included in the Addendum to the General Conditions.
- (a) In the event of any conflict or inconsistency between (1) a warranty requirement set forth in the Specifications and/or the Contract Drawings and (2) a warranty requirement set forth in Schedule B, the warranty requirement set forth in Schedule B shall prevail.
- (b) In the event a warranty requirement set forth in the Specifications and/or the Contract Drawings is omitted from Schedule B, such omission from Schedule B shall have no effect and the Contractor's obligation to provide the manufacturer's warranty, as set forth in the Specifications and/or the Contract Drawings, shall remain in full force and effect.
- (c) In the event a warranty requirement for a particular item of material or equipment is omitted from Schedule B, as well as from the Specifications or the Contract Drawings, and the manufacturer of such item actually provides a warranty, the Contractor shall be obligated to obtain and deliver to the Commissioner the highest level of warranty actually provided by that manufacturer.
- (11) Exculpatory Provisions: In the event the Specifications and/or the Contract Drawings contain any provision whereby the consultant and/or any of its officers, employees or agents, including subconsultants, is absolved of responsibility for any act or omission, such provision is deemed deleted.
- (12) Insurance: Provisions regarding insurance coverage the Contractor is required to provide are set forth in Article 22 of the City of New York Standard Construction Contract and Schedule A, which is included in the Addendum to the General Conditions. In the event the Specifications and/or the Contract Drawings contain any provision regarding insurance requirements, such provision is deemed deleted.
- (13) Indemnification: Provisions regarding indemnification are set forth in Articles 7, 12, 22 and 57 of the City of New York Standard Construction Contract. In the event the Specifications and/or the Contract Drawings contain any provision regarding indemnification, such provision is deemed deleted.
- (14) Dispute Resolution: Provisions regarding dispute resolution are set forth in Article 27 of the City of New York Standard Construction Contract. In the event the Specifications and/or the Contract Drawings contain any provision regarding dispute resolution, such provision is deemed deleted.
- (15) Payment to Other Entities: In the event the Specifications and/or the Contract Drawings contain any provision which requires the Contractor to make payments to an entity other than a subcontractor and/or supplier providing services and/or material for the project, such provision is deemed deleted.
- (16) General Conditions: In the event of any conflict or inconsistency between (1) the Specifications and/or the Contract Drawings and (2) the General Conditions, the General Conditions shall prevail.
- (17) Standard Construction Contract: In the event of any conflict or inconsistency between (1) the Specifications and/or the Contract Drawings and (2) the City of New York Standard Construction Contract, the City of New York Standard Construction Contract shall prevail.

SCHEDULE A (FOR PUBLICLY BID PROJECTS)**PART I - Contract Requirements**

Various Articles of the Contract refer to requirements which are set forth in Schedule A of the General Conditions. The Schedule set forth below specifies the following: (1) the referenced Articles of the Contract, and (2) the specific requirements applicable to the contract.

REFERENCE	ITEM	REQUIREMENTS	CONTRACT #1
Information For Bidders	Bid Security		See Attachment 1 – Bid Information in the Bid Booklet
Information For Bidders	Performance and Payment Bonds		See Attachment 1- Bid Information in the Bid Booklet
Article 14 Contract	Time of Completion	Consecutive Calendar Days	480
Article 15 Contract	Liquidated Damages	For each consecutive calendar day over completion time	\$400
Article 17 Contract	Sub-Contracts	Not to exceed Percent of Contract Price	60%
Article 21 Contract	Retainage	Percent of Voucher	If 100% bonds are required 5%
			If 100% bonds are not required, and Contract Price is \$1,000,000 or less 5%
			If 100% bonds are not required, and Contract Price is more than \$1,000,000 10%
Article 24 Contract	Deposit Guarantee	Percent of Contract Price	1%
Article 24 Contract	Period of Guarantee		See Schedule B of the Addendum to the General Conditions
Article 74 Contract	Statement of Work		See Contract Article 74
Article 75 Contract	Compensation to be Paid to Contractor		See Contract Article 75
Article 78 Contract	MWBE Program		See M/WBE Utilization Plan in the Bid Booklet

SCHEDULE A (FOR PUBLICLY BID PROJECTS)

Relating to Article 22 - Insurance

PART II. Types of Insurance, Minimum Limits and Special Conditions

Note: All certificate(s) of insurance submitted pursuant to Contract Article 22.3. 3 must be accompanied by a Certification by Broker consistent with Part III below and include the following information:

- For each insurance policy, the name and NAIC number of issuing company, number of policy, and effective dates;
- Policy limits consistent with the requirements listed below;
- Additional insureds or loss payees consistent with the requirements listed below; and
- The number assigned to the Contract by the City (in the "Description of Operations" field).

Insurance indicated by a blackened box (■) or by (X) in the ☐ to left will be required under this contract.

Types of Insurance (per Article 22 in its entirety, including listed paragraph)	Minimum Limits and Special Conditions
■ Commercial General Liability Art. 22.1.1	<p>The minimum limits shall be \$1,000,000.00 per occurrence and \$2,000,000.00 per project aggregate applicable to this Contract.</p> <p>Additional Insureds:</p> <p>1. City of New York, including its officials and employees, with coverage at least as broad as ISO Forms CG 20 10 and CG 20 37, and</p> <p>2. All person(s) or organization(s), if any, that Article 22.1.1(b) of the Contract requires to be named as Additional Insured(s), with coverage at least as broad as ISO Form CG 20 26. The Additional Insured endorsement shall either specify the entity's name, if known, or the entity's title (e.g., Project Manager).</p>
■ Workers' Compensation Art. 22.1.2 ■ Disability Benefits Insurance Art. 22.1.2 ■ Employers' Liability Art. 22.1.2 <input type="checkbox"/> Jones Act Art. 22.1.3 <input type="checkbox"/> U.S. Longshoremen's and Harbor Workers Compensation Act Art. 22.1.3	<p>Workers' Compensation, Employers' Liability, and Disability Benefits Insurance: Statutory per New York State law without regard to jurisdiction.</p> <p>Note: The following forms are acceptable: (1) New York State Workers' Compensation Board Form No. C-105.2, (2) State Insurance Fund Form No. U-26.3, (3) New York State Workers' Compensation Board Form No. DB-120.1 and (3) Request for WC/DB Exemption Form No. CE-200. The City will not accept an ACORD form as proof of Workers' Compensation or Disability Insurance.</p> <p>Jones Act and U.S. Longshoremen's and Harbor Workers' Compensation Act: Statutory per U.S. law.</p>

SCHEDULE A (FOR PUBLICLY BID PROJECTS)

Relating to Article 22 - Insurance

PART II. Types of Insurance, Minimum Limits and Special Conditions

Insurance indicated by a blackened box (■) or by (X) in the ☐ to left will be required under this contract.

Types of Insurance (per Article 22 in its entirety, including listed paragraph)	Minimum Limits and Special Conditions
■ Builders' Risk Art. 22.1.4	100 % of total value of Work Contractor the Named Insured; the City both an Additional Insured and one of the loss payees as its interests may appear. If the Work does not involve construction of a new building or gut renovation work, the Contractor may provide an installation floater in lieu of Builders Risk insurance. Note: Builders Risk Insurance may terminate upon Substantial Completion of the Work in its entirety.
■ Commercial Auto Liability Art. 22.1.5	\$1,000,000.00 per accident combined single limit If vehicles are used for transporting hazardous materials, the Contractor shall provide pollution liability broadened coverage for covered vehicles (endorsement CA 99 48) as well as proof of MCS 90
□ Contractor's Pollution Liability Art. 22.1.6	\$ _____ per occurrence \$ _____ aggregate Additional Insureds: 1. City of New York, including its officials and employees, and 2. _____ 3. _____
□ Marine Protection and Indemnity Art. 22.1.7(a)	\$ _____ per occurrence \$ _____ aggregate Additional Insureds: 1. City of New York, including its officials and employees, and 2. _____ 3. _____

SCHEDULE A (FOR PUBLICLY BID PROJECTS)

Relating to Article 22 - Insurance

PART II. Types of Insurance, Minimum Limits and Special Conditions (Continued)

Insurance indicated by a blackened box (■) or by (X) in the ☐ to left will be required under this contract.

Types of Insurance (per Article 22 in its entirety, including listed paragraph)	Minimum Limits and Special Conditions
<input type="checkbox"/> Hull and Machinery Insurance Art. 22.1.7(b)	\$ _____ per occurrence \$ _____ aggregate Additional Insureds: 1. City of New York, including its officials and employees, and 2. _____ 3. _____
<input type="checkbox"/> Marine Pollution Liability Art. 22.1.7(c)	\$ _____ each occurrence Additional Insureds: 1. City of New York, including its officials and employees, and 2. _____ 3. _____
[OTHER] Art. 22.1.8 <input type="checkbox"/> Ship Repairers Legal Liability	\$ _____ each occurrence
[OTHER] Art. 22.1.8 <input type="checkbox"/> Collision Liability/Towers Liability	\$ _____ per occurrence \$ _____ aggregate Additional Insureds: 1. City of New York, including its officials and employees, and 2. _____ 3. _____
[OTHER] Art. 22.1.8 <input type="checkbox"/> Railroad Protective Liability	\$ _____ per occurrence \$ _____ aggregate Additional Insureds: 1. City of New York, including its officials and employees, and 2. _____ 3. _____

Relating to Article 22 - Insurance

Insurance indicated by a blackened box (■) or by (X) in the ☐ to left will be required under this contract.

[OTHER]☐ Asbestos Liability

\$1,000,000 each occurrence.

Additional Insureds:

2. _____

[OTHER]

☐ Boiler Insurance

\$200,000

[OTHER]

- Professional Liability

\$1,000,000 per occurrence

The Contractor's Professional Engineer shall maintain and submit evidence of Professional Liability Insurance in the minimum amount of \$1,000,000 per claim. The policy or policies shall include an endorsement to cover the liability assumed by the Contractor under this Agreement arising out of the negligent performance of professional services or caused by an error, omission or negligent act of the Contractor's Professional Engineer or anyone employed by the Contractor's Professional Engineer.

Claims-made policies will be accepted for Professional Liability Insurance. All such policies shall have an extended reporting period option or automatic coverage of not less than two (2) years. If available as an option, the Contractor's Professional Engineer shall purchase extended reporting period coverage effective on cancellation or termination of such insurance unless a new policy is secured with a retroactive date, including at least the last policy year.

SCHEDULE A (FOR PUBLICLY BID PROJECTS)

Relating to Article 22 - Insurance

PART III. Certificates of Insurance

All certificates of insurance (except certificates of insurance solely evidencing Workers' Compensation Insurance, Employer's Liability Insurance, and/or Disability Benefits Insurance) must be accompanied by one of the following:

- (1) the Certification by Insurance Broker or Agent on the following page setting forth the required information and signatures;

-- OR --

- (2) copies of all policies as certified by an authorized representative of the issuing insurance carrier that are referenced in such certificate of insurance. If any policy is not available at the time of submission, certified binders may be submitted until such time as the policy is available, at which time a certified copy of the policy shall be submitted.

Relating to Article 22 - Insurance

The undersigned insurance broker or agent represents to the City of New York that the attached Certificate of Insurance is accurate in all material respects.

[Name and title of authorized official, broker or agent (typewritten)]

State of)
County of) ss:

_____ day of _____, 20____

NOTARY PUBLIC FOR THE STATE OF _____

SCHEDULE A (FOR PUBLICLY BID PROJECTS)

Relating to Article 22 - Insurance

PART IV. Address of Commissioner

Wherever reference is made in Article 7 or Article 22 to documents to be sent to the **Commissioner** (e.g., notices, filings, or submissions), such documents shall be sent to the address set forth below or, in the absence of such address, to the **Commissioner's** address as provided elsewhere in this **Contract**.

ACCO's Office, Insurance Unit

30-30 Thomson Avenue, 4th Floor

Long Island City, New York 11101

SCHEDULE B

Guarantees and Warranties

(Reference: Section 01 7839, Article 2.7 of the DDC Standard General Conditions)

GUARANTY FROM CONTRACTOR

(1) **Contractor's Guaranty Obligation:** The Contractor shall promptly repair, replace, restore or rebuild, as the Commissioner may determine, any finished Work in which defects of materials or workmanship may appear or to which damage may occur because of such defects, during the one (1) year period subsequent to the date of Substantial Completion (or use and occupancy in accordance with the Contract), except for the areas of Work set forth below:

- Roofing, Waterproofing, and Joint Sealant Work. For these types of work, the guarantee period shall be (2) two years.
- Trees and/or Plant Material. For trees and/or plant material furnished and installed, the guarantee period shall be (2) two years. During the guarantee period, the Contractor shall provide all maintenance services set forth in the Specifications.

(2) **Guaranty Period:** The obligation of the Contractor, and its Surety under the Performance Bond, is limited to the period(s) of time specified above.

(3) **Other Provisions Deemed Deleted:** In the event the Specifications and/or the Contract Drawings contain any provisions regarding guaranty requirements, such provisions are deemed deleted and replaced with the guaranty requirements set forth in this Schedule B.

WARRANTY FROM MANUFACTURER

(1) **Contractor's Obligation to Provide Warranties:** The items of material and/or equipment for which manufacturer warranties are required are listed below. For each item of material and/or equipment listed below, the Contractor shall obtain a written warranty from the manufacturer. Such warranty shall provide that the material or equipment is free from defects for the period set forth below and will be replaced or repaired within such specified period. The Contractor shall deliver all required warranties to the Commissioner.

(2) **Required Warranties:**

Specification Number	Material or Equipment	Warranty Period
07 92 00	Joint Sealants	Two Years
08 71 00	Door Hardware	Three Years
	Exit Devices	Two Years
	Manual Closers	Ten years
14 21 05	Elevator Cabs	Five Years
14 21 23	Electric Traction Elevators	One Year
22 14 29	Sump Pump	One Year
23 73 05	Propeller Fan	One Year
23 84 40	Electric Unit Heater	One Year
23 86 00	Electric Motor Controllers	Five Years
26 24 16	Panelboards	One Year
26 27 26	Wiring Devices	One Year
28 23 29	Video Surveillance Remote Devices and Sensors	One Year

(3) **Application:** The obligations under the warranty for the periods specified above shall apply only to the manufacturer of the material or equipment, and not to the Contractor or its Surety; provided, however, the Contractor retains responsibility for obtaining all required warranties from the manufacturers and delivering the same to the Commissioner.

(4) **Other Provisions:** The warranty requirements set forth in this Schedule B are also included in the Specifications.

- (a) In the event of any conflict between a warranty requirement set forth in the Specifications and a warranty requirement set forth in Schedule B, the warranty requirement set forth in Schedule B shall take precedence.
- (b) In the event a warranty requirement set forth in the Specifications is omitted from Schedule B, such omission from Schedule B shall have no effect and the Contractor's obligation to provide the manufacturer's warranty, as set forth in the Specifications, shall remain in full force and effect
- (c) In the event a warranty requirement for a particular item of material or equipment is omitted from both Schedule B and the Specifications, and the manufacturer of such item actually provides a warranty, the Contractor shall be obligated to obtain and deliver to the Commissioner the highest level of warranty actually provided by that manufacturer.
- (d) In the event a warranty requirement is provided for a particular item of material or equipment, and such requirement specifies a warranty period that is longer than that which is actually provided by any of the specified manufacturers, the Contractor shall be obligated to obtain and deliver to the Commissioner the highest level of warranty actually provided by any of the specified manufacturers, unless otherwise directed in writing by the Commissioner.
- (e) Unless indicated otherwise Warranties are to take effect on the date of Substantial Completion.

SCHEDULE C

Contract Drawings

(Reference: Section 01 1000, Article 1.5 (A) of the DDC Standard General Conditions)

The Schedule set forth below lists all Contract Drawings for the Project.

ARCHITECTURAL

- A-001.00 GENERAL NOTES AND DRAWING LIST
- A-002.00 ABBREVIATION AND SYMBOLS
- A-101.00 FLOOR PLANS
- A-401.00 ENLARGE ELEVATOR PLANS & DETAILS
- A-601.00 DOOR SCHEDULE & DETAILS

VERTICAL TRANSPORTATION

- VT-100.00 DEMOLITION HATCH PLAN, MACHINE ROOM AND SECTIONS ELEVATORS PE1 & PE2
- VT-102.00 NEW HATCH PLAN, MACHINE ROOM AND SECTIONS ELEVATORS PE1 & PE2

MECHANICAL

- M-001.00 MECHANICAL DRAWING LIST, SCOPE OF WORK, AND NOTES
- M-002.00 MECHANICAL SYMBOL LIST AND ABBREVIATIONS
- DM-200.00 MECHANICAL EMR LEVEL DEMOLITION PLAN
- M-300.00 MECHANICAL EMR AND HOISTWAY LEVELS
- M-500.00 MECHANICAL ELEVATOR HOISTWAY VENTING DIAGRAM AND CONTROL DIAGRAMS
- M-600.00 MECHANICAL DETAILS
- M-601.00 MECHANICAL DETAILS
- M-700.00 MECHANICAL EQUIPMENT SCHEDULES
- EN-002.00 MECHANICAL ENERGY CODE COMPLIANCE

PLBG

- P-001.00 PLBG DRAWING LIST, GENERAL NOTES, SYMBOLS & ABBREVIATIONS
- P-100.00 PLBG BASEMENT LEVEL WORK PLAN

ELECTRICAL

- E-001.00 ELECTRICAL DRAWING LIST, SCOPE OF WORK, SYMBOLS & ABBREVIATIONS
- DME-105.00 ELECTRICAL EMR LEVEL DEMOLITION PLAN
- E-100.00 ELECTRICAL BASEMENT LEVEL POWER PLAN
- E-101.00 ELECTRICAL FIRST FLOOR POWER PLAN
- E-105.00 ELECTRICAL EMR LEVEL POWER PLAN
- E-205.00 ELECTRICAL EMR LEVEL LIGHTING PLAN
- E-500.00 ELECTRICAL RISER DIAGRAM
- E-700.00 ELECTRICAL DETAILS SHEET
- EN-001.00 ELECTRICAL ENERGY COMPLIANCE SHEET

FIRE ALARM

- FA-001.00 FIRE ALARM DRAWING LIST, SEQUENCE OF OPERATIONS, RISER, AND SYMBOLS
- FA-101.00 FIRE ALARM FIRST FLOOR PLAN
- FA-105.00 FIRE ALARM EMR LEVEL PLAN

SECURITY CAMERA

- TE-001.00 EMR CCT EQUIPMENT LAYOUT
- TE-002.00 ELEVATOR CCTV DIAGRAM

STRUCTURAL

- S-001.00 STRUCTURAL DETAILS

SCHEDULE D

Electrical Motor Control Equipment

(Reference: 01 3506, Article 3.8 of the DDC Standard General Conditions)

Requirements for electrical motor equipment may be included in one or more sections of the Specifications for the Contract for the Project. Schedule D set forth below delineates specific information for electrical motor control equipment. In the event of any conflict between the Specifications and this Schedule D, Schedule D shall take precedence; provided, however, in the event of an omission from Schedule D (i.e., Schedule D omits either a reference to or information concerning electrical motor equipment which is set forth in the Specifications), such omission from Schedule D shall have no effect and the Contractor's obligation with respect to the electrical motor control equipment, as set forth in the Specifications, shall remain in full force and effect.

DB Disconnect Circuit Breaker (Switch) **P** Pilot Light
TS Thermal Switch **F** Firestat
MS Magnetic Starter **T** Thermostat
CMS Comb. Mag. Starter **AL** Alternator

BG Break Glass Station
HOA Hand-Off Auto.
PB Push Button Station
RO Remote "off"

Equip. Ident.	Location	# of Units	HP or KW	Volts and Phase	Control Type: See legend above	Remarks:
AC-1 - EMR	EMR	1		208/1	T	
ACCU-1-EMR	EXTERIOR -ROOF	1		208/1	DB, T	
EUH-1-EMR	EMR	1		208/1	TS,T	
EF-1-EMR	EMR	1		208/1	TT	

SCHEDULE E

Separation of Trades

NOT USED FOR SINGLE CONTRACTS

SCHEDULE F

Submittals Schedule

(Reference: Section 01 3300 Article 1.5 (C) of the General Conditions)

The Schedule set forth below lists all submittal requirements for the Contract. In the event of any conflict between the Specifications and this Schedule F, Schedule F shall take precedence; provided, however, in the event of an omission from Schedule F (i.e., Schedule F omits either a reference to or information concerning a submittal requirement which is set forth in the Specifications), such omission from Schedule F shall have no effect and the Contractor's submittal obligation, as set forth in the Specifications, shall remain in full force and effect.

CONSULTANT: WSP Group
TELEPHONE NUMBER: 212.532.9600
DDC PROJECT MANAGER: Donel Pompilus
TELEPHONE NUMBER: 718.391.1608

DATE: _____
APPROVED: _____
(DDC RESIDENT ENGINEER/CPM)

REPORT DATE		FMS ID #/PROJECT ID #: CONTRACT REGISTRATION #: PROJECT NAME:			CONTRACT #: TRADE: SHOP DRAWING LOG SHEET #			Contract 1 - GENERAL CONSTRUCTION									
SPEC. SECT. #	DESCRIPTION	COORD. WITH CONTR.	SUBMITTAL		SUB. DATE	REQ'D DEL.	FABRIC. TIME	SUBMISSIONS									
			SHOP DWG	SAMPLE				REC'D	RET'D	ACTION	REC'D	RET'D	ACTION	REC'D	RET'D	ACTION	ACTION
01 3526	Safety and Health Program	X															
01 3526	Contractor's Safety Plan	X															
01 3591	Historic Treatment Plan	X															
01 5000	Site Plan		X														
01 5000	Reports	X															
01 5423	NYC DOB Scaffold & Sidewalk Shed Permits	X	X														



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Long Island City, NY 11101

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CONTRACT # 1
GENERAL CONSTRUCTION WORK

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SECTION 02 41 19

SELECTIVE STRUCTURE DEMOLITION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. The following documents apply to all required work for the Project:

1. The Contract Drawings,
2. The Specifications,
3. The General Conditions,
4. The Addendum, and
5. The Contract City of New York Standard Construction Contract.

1.2 SUMMARY

A. Section Includes:

1. Demolition and removal of selected portions of building or structure.

B. Related Requirements:

1. General Conditions Section "Summary" for restrictions on the use of the premises, City of New York-occupancy requirements, and phasing requirements.
2. General Conditions Section "Execution" for cutting and patching procedures.
3. General Conditions Section "Construction Waste Management and Disposal" for disposal and recycling of construction waste.

1.3 DEFINITIONS

- A. Remove: Detach items from existing construction and legally dispose of them off-site unless indicated to be removed and salvaged or removed and reinstalled.
- B. Remove and Salvage: Carefully detach from existing construction, in a manner to prevent damage, and deliver to City of New York.

1.4 MATERIALS OWNERSHIP

- A. Unless otherwise indicated, demolition waste becomes property of Contractor.

1.5 PREINSTALLATION MEETINGS

- A. Predemolition Conference: Conduct conference at Project site.



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1. Inspect and discuss condition of construction to be selectively demolished.
2. Review structural load limitations of existing structure.
3. Review and finalize selective demolition schedule and verify availability of materials, demolition personnel, equipment, and facilities needed to make progress and avoid delays.
4. Review requirements of work performed by other trades that rely on substrates exposed by selective demolition operations.

1.6 INFORMATIONAL SUBMITTALS

- A. Proposed Protection Measures: Submit report, including drawings, that indicates the measures proposed for protecting individuals and property, for environmental protection, for dust control, and for noise control. Indicate proposed locations and construction of barriers.
- B. Schedule of Selective Demolition Activities: Indicate the following:
 1. Detailed sequence of selective demolition and removal work, with starting and ending dates for each activity. Ensure City of New York's building manager's and other tenants' on-site operations are uninterrupted.
 2. Interruption of utility services. Indicate how long utility services will be interrupted.
 3. Coordination for shutoff, capping, and continuation of utility services.
 4. Use of elevator and stairs.
 5. Coordination of City of New York's continuing occupancy of portions of existing building and of City of New York's partial occupancy of completed Work.
- C. Predemolition Photographs: Submit before Work begins.

1.7 CLOSEOUT SUBMITTALS

- A. Inventory: Submit a list of items that have been removed and salvaged.
- B. Landfill Records: Indicate receipt and acceptance of hazardous wastes by a landfill facility licensed to accept hazardous wastes.

1.8 FIELD CONDITIONS

- A. Commissioner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so City of New York's operations will not be disrupted.
- B. Conditions existing at time of inspection for bidding purpose will be maintained by City of New York as far as practical.
- C. Notify Commissioner of discrepancies between existing conditions and Drawings before proceeding with selective demolition.
- D. Hazardous Materials: Hazardous materials are present in buildings and structures to be selectively demolished.
 1. Do not disturb hazardous materials or items suspected of containing hazardous materials except under procedures specified elsewhere in the Contract Documents.



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- E. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.

- 1. Maintain fire-protection facilities in service during selective demolition operations.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- B. Standards: Comply with ANSI/ASSE A10.6 and NFPA 241.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that utilities have been disconnected and capped before starting selective demolition operations.
- B. Review record documents of existing construction provided by Commissioner. Com does not guarantee that existing conditions are same as those indicated in record documents.
- C. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.
- D. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Commissioner.
- E. Survey of Existing Conditions: Record existing conditions by use of preconstruction photographs.
 - 1. Comply with requirements specified in General Conditions Section "Photographic Documentation."

3.2 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

- A. Existing Services/Systems to Remain: Maintain services/systems indicated to remain and protect them against damage.
 - 1. Comply with requirements for existing services/systems interruptions specified in General Conditions Section "Summary."

3.3 PREPARATION



- A. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
 - 1. Comply with requirements for access and protection specified in General Conditions Section "Temporary Facilities, Services."

3.4 SELECTIVE DEMOLITION, GENERAL

- A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:
 - 1. Proceed with selective demolition systematically, from higher to lower level. Complete selective demolition operations above each floor or tier before disturbing supporting members on the next lower level.
 - 2. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.
 - 3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
 - 4. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain fire watch and portable fire-suppression devices during flame-cutting operations.
 - 5. Maintain adequate ventilation when using cutting torches.
 - 6. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
 - 7. Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.
 - 8. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
 - 9. Dispose of demolished items and materials promptly. Comply with requirements in General Conditions Section "Construction Waste Management and Disposal."

3.5 SELECTIVE DEMOLITION PROCEDURES FOR SPECIFIC MATERIALS

- A. Resilient Floor Coverings: Remove floor coverings and adhesive according to recommendations in RFCI's "Recommended Work Practices for the Removal of Resilient Floor Coverings." Do not use methods requiring solvent-based adhesive strippers.

3.6 DISPOSAL OF DEMOLISHED MATERIALS

- A. General: Except for items or materials indicated to be recycled, reused, salvaged, reinstalled, or otherwise indicated to remain City of New York's property, remove demolished materials from Project site and legally dispose of them in an EPA-approved landfill.
 - 1. Do not allow demolished materials to accumulate on-site.



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2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
 3. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.
- B. Burning: Do not burn demolished materials.
- C. Disposal: Transport demolished materials off City of New York's property and legally dispose of them.

3.7 CLEANING

- A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

END OF SECTION 02 41 19



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SECTION 028013 – GENERAL CONTRACTOR WORK
ALLOWANCE FOR INCIDENTAL ASBESTOS ABATEMENT

1.01 SCOPE FOR ASBESTOS ABATEMENT WORK

- A. The "General Conditions" apply to the work of this Section.
- B. The Asbestos abatement contractor shall remove asbestos containing materials as needed to perform the other work of this Contract when discovered during the course of work. When required, the Asbestos abatement contractor shall replace the ACM with non-asbestos containing materials. An allowance of **\$15,000.00** for the **General Contractor** is herein established for this incidental work when so ordered and authorized by the Commissioner.
- C. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF THE RULES AND REGULATIONS OF THE ASBESTOS CONTROL PROGRAM AS PROMULGATED BY TITLE 15 CHAPTER 1 OF RCNY AND NEW YORK STATE DEPARTMENT OF LABOR INDUSTRIAL CODE RULE 56 CITED AS 12 NYCRR, PART 56 WHICHEVER IS MORE STRINGENT AS PER LATEST AMENDMENTS TO THESE LAWS AND AS MODIFIED HEREIN BY THESE SPECIFICATIONS.
- D. ALL DISPOSAL OF ASBESTOS CONTAMINATED MATERIAL SHALL BE PER LOCAL LAW 70/85.
- E. THE ASBESTOS ABATEMENT CONTRACTOR'S ATTENTION IS DIRECTED TO THE FACT THAT CERTAIN METHODS OF ASBESTOS ABATEMENT ARE PROTECTED BY PATENTS. TO DATE, PATENTS HAVE BEEN ISSUED WITH RESPECT TO "NEGATIVE PRESSURE ENCLOSURE" OR "NEGATIVE-AIR" OR "REDUCED PRESSURE" AND "GLOVE BAG".
- F. THE ASBESTOS ABATEMENT CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR AND SHALL HOLD THE DEPARTMENT OF DESIGN AND CONSTRUCTION AND THE CITY HARMLESS FROM ANY AND ALL DAMAGES, LOSSES AND EXPENSES RESULTING FROM ANY INFRINGEMENT BY THE ASBESTOS ABATEMENT CONTRACTOR OF ANY PATENT, INCLUDING BUT NOT LIMITED TO THE PATENTS DESCRIBED ABOVE, USED BY THE ASBESTOS ABATEMENT CONTRACTOR DURING PERFORMANCE OF THIS AGREEMENT.
- G. "Asbestos" shall mean any hydrated mineral silicate separable into commercially usable fibers, including but not limited to chrysotile (serpentine), amosite (cumingtonite-grunerite), crocidolite (riebeckite), tremolite, anthrophyllite and actinolite.

GENERAL CONTRACTOR WORK ALLOWANCE FOR INCIDENTAL ASBESTOS ABATEMENT

- H. Prior to starting, the Asbestos abatement contractor must notify the Commissioner of the Department of Design and Construction if he/she anticipates any difficulty in performing the Work as required by these Specifications. The Asbestos abatement contractor is responsible to prepare and submit all filings, notifications, etc. required by all City, State and Federal regulatory agencies having jurisdiction.

The Asbestos abatement contractor is responsible for submitting the Asbestos Project Notification Form (ACP-7 Form) to the Department of Environmental Protection, Asbestos Control Program, as per Title 15, Chapter I of RCNY and to the NYSDOL as per Industrial Code Rule 56.

The Asbestos abatement contractor is responsible for preparing, and submitting Asbestos Variance Application (ACP-9). If a Variance is required, the Asbestos abatement contractor is responsible to retain a NYSDOL Asbestos Project Designer, as defined in Title 15, Chapter 1 of the RCNY to prepare and submit the required variance.

The General contractor is responsible for preparing and submitting an Asbestos Abatement Permit and/or Work Place Safety Plans (WPSP) that may be required for the completion of the Contract or incidental work. If such plans are required, the Asbestos abatement contractor is responsible to retain a NYSDOL Licensed Design Professional as defined in Title 15, Chapter 1 of the RCNY to prepare and submit the required plans.

The Asbestos abatement contractor is responsible for the submission of all required documents to the NYCDEP to acquire the appropriate Asbestos Project Conditional Closeout (ACP-20) and/or Asbestos Project Completion Forms (ACP-21) on a timely basis for the completion of the incidental work encountered under this contract.

The Asbestos abatement contractor will be required to attend an on-site job meeting with the Construction Project Manager prior to the start of work to examine conditions and plan the sequence of operations, etc.

The Asbestos abatement contractor shall have a NYSDOL/NYCDEP Asbestos Supervisor onsite to oversee the work and conduct a final visual inspection as required by both Title 15, Chapter 1 of the RCNY and NYSDOL Industrial Code Rule 56.

- I. All work shall be done during regular working hours unless the Asbestos abatement contractor requests authorization to work in other than regular working hours and such authorization is granted by the Commissioner. (Regular work hours are those hours during which any given facility, in which work is to be done, is customarily open and functioning, normally between the hours of 8:00 A.M. and 4:00 P.M. Monday - Friday.) If such work schedule is authorized by the Commissioner, the work shall be done at no additional cost to the City.

- J. The Commissioner may order that work be done in other than regular working hours as herein by defined and this order may require the Asbestos abatement contractor to pay premium or overtime wages to complete the work. If the Commissioner orders work in other than regular working hours, the Asbestos abatement contractor shall multiply the unit price for that portion of the work requiring premium wages by 1.50 when computing payment in accordance with Paragraph 1.09. All requests for premium payment must be supported by certified payroll sheets and field sheets approved by the Construction Project Manager.

1.02 QUALIFICATIONS OF ASBESTOS ABATEMENT CONTRACTOR

- A. Requirements: The asbestos abatement contractor must demonstrate compliance with the special experience requirements set forth in subparagraphs (1) through (5) below. The asbestos abatement contractor must, submit documentation demonstrating compliance with all listed requirements. Such documentation shall include without limitation, all required licenses, certificates, and documentation.
1. The asbestos abatement contractor must, whether an individual, corporation, partnership, joint venture or other legal entity, must demonstrate for the three year period prior to the work, that it has been licensed by the New York State Department of Labor, as an "Asbestos abatement contractor".
 2. The asbestos abatement contractor must, for the three year period prior to the work, have been in the business of providing asbestos abatement services as a routine part of its daily operations.
 3. The asbestos abatement contractor proposing to do asbestos abatement work must be thoroughly experienced in such work and must provide evidence of having successfully performed and completed in a timely fashion at least five (5) asbestos abatement projects of similar size and complexity. The aggregate cost of these projects must be at least \$250,000.00 in each of the three years.
 4. For each project submitted to meet the experience requirements set forth above, the asbestos abatement contractor must submit the following information for the project; name and location of the project; name title and telephone number of the owner or the owner's representative who is familiar with the asbestos abatement contractor's work, brief description of the work completed as a prime or sub-asbestos abatement contractor; amount of contract or subcontract and the date of completion.
 5. The asbestos abatement contractor must demonstrate that it has the financial resources, supervisory personnel and equipment necessary to carry out the work and to comply with the required performance schedule,

taking into consideration other business commitments. The asbestos abatement contractor must submit such documentation as may be required by the Department of Design and Construction to demonstrate that it has the requisite capacity to perform the required services of this contract.

- B. Insurance Requirements: The asbestos abatement contractor must provide asbestos liability insurance in the following amount: 1 million dollars per occurrence, 2 million dollars aggregate (combined single limit). The City of New York shall be named as an additional insured on such insurance policy.
- C. Throughout the specifications, reference is made to codes and standards which establish qualities and types of workmanship and materials, and which establish methods for testing and reporting on the pertinent characteristics thereof.

1.03 ASBESTOS ABATEMENT CONTRACTOR RESPONSIBILITIES

The Asbestos abatement contractor will visit the subject location within one (1) working day of notification to ascertain actual work required. If the project is identified as being "urgent", then work shall commence no later than 48 hours from the time of notification. In this event, the asbestos abatement contractor shall immediately notify when applicable EPA NESHAPS Coordinator, NYSDOL Asbestos Control Bureau and NYCDEP Asbestos Control Program of start of the work and file the necessary Asbestos Notifications and any applicable Variance Applications with the regulatory agencies cited above..

In the event that the project is not classified as "urgent" the Asbestos abatement contractor shall notify the EPA NESHAPS Coordinator, NYSDOL and NYCDEP by submitting the requisite asbestos project notification forms, postmarked 10 days before activity begins if 260 linear feet or more and/or 160 square feet or more of asbestos containing material will be disturbed.

The following information must be included in the notification:

- A. Name and address of building City or operator;
- B. Project description:
 - 1. Size - square feet, number of linear feet, etc;
 - 2. Age - date of construction and renovations (if known);
 - 3. Use - i.e., office, school, industrial, etc.
 - 4. Scope - repair, demolition, cleaning, etc.
- C. Amount of asbestos involved in work and an explanation of techniques used to determine the amount;

GENERAL CONTRACTOR WORK ALLOWANCE FOR INCIDENTAL ASBESTOS ABATEMENT

- D. Building location/address, including Block and Lot numbers;
- E. Work schedule including the starting and completion dates;
- F. Abatement methods to be employed;
- G. Procedures for removal of asbestos-containing material;
- H. Name, title and authority of governmental representative sponsoring project.

1.04 WORK INCLUDED IN UNIT PRICE

The Asbestos abatement contractor will be paid a basic unit price of **\$25.00** per square feet for the removal and disposal of asbestos containing material and replacement of the same with non-asbestos containing materials.

Unit price shall include all costs necessary to do the work of this Contract, including but not limited to: labor, materials, equipment, utilities, disposal, insurance, overhead and profit.

1.05 AIR MONITORING – ASBESTOS ABATEMENT CONTRACTOR

- A. "Air Sampling" shall mean the process of measuring the fiber content of a known volume of air collected during a specific period of time. The procedure utilized for asbestos follows the NIOSH Standard Analytical Method 7400 or the provisional transmission electron microscopy methods developed by the USEPA and/or National Institute of Standard and Technology which are utilized for lower detectability and specific fiber identification.
- B. Air monitoring of Asbestos abatement contractor's personnel will be performed in conformance with OSHA requirements, (All costs associated with this work are deemed included in the unit price.).
- C. Qualifications of Testing Laboratory:

The industrial hygiene laboratory shall be a current proficient participant in the American Industrial Hygiene Association (AIHA) PAT Program. The laboratory identification number shall be submitted and approved by the City. The laboratory shall be accredited by the AIHA and New York State Department of Health Environmental Laboratory Approval Program (ELAP).

Note: Work area air testing and analysis before, during and upon completion of work (clearance testing) will be performed by a Third Party Air Monitor under separate Contract with the City.

1.06 THIRD PARTY MONITORING AND LABORATORY

- A. The NYCDDC, at its own expense, will employ the services of an independent Third Party Air Monitoring Firm and Laboratory. The Third Party Air Monitor will perform air sampling activities and project monitoring at the Work Site.
- B. The Laboratory will perform analysis of air samples utilizing Phase Contrast Microscopy (PCM) and/or Transmission Electron Microscopy (TEM).
- C. The Third Party Air Monitoring Firm and the designated Project Monitor shall have access to all areas of the asbestos removal project at all times and shall continuously inspect and monitor the performance of the Asbestos abatement contractor to verify that said performance complies with this Specification. The Third-Party Air Monitor shall be on site throughout the entire abatement operation.
- D. The NYCDDC will be responsible for costs incurred with the Third Party Air Monitoring Firm and laboratory work. Any subsequent additional testing required due to limits exceeded during initial testing shall be paid for by the Asbestos abatement contractor.

1.07 PAYMENT REQUEST DOCUMENTATION

- B. The following information shall be included for each payment request:
 - 1. Description of work performed.
 - 2. Linear footage and pipe sizes involved.
 - 3. Square footage for boiler & breaching insulation removed.
 - 4. Square footage of non pipe and boiler areas removed, patched, enclosed, sealed, or painted.
 - 5. Square footage of encapsulation, sealing, patching, and painting involved.
 - 6. Total cost associated with compliance with the assigned task.
 - 7. Architectural, Electrical, HVAC, Plumbing, etc. work incidental to the Asbestos Abatement Work.
 - 8. A certified copy (in form 4312-39) to the Comptroller or Financial Officer of the New York City to the effect that the financial statement is true.
 - 9. A signed copy (in form 6506q-6) of certificate of compliance with non-discriminatory provisions of the Contract.

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10. Attach a copy of valid workmen compensation insurance.
 11. Valid asbestos insurance per occurrence.
 12. General liability insurance when required.
- C. Each payment request shall include a grand total for all work completed that billing period, the landfill waste manifests and a copy of waste transporter permit. The Department of Design and Construction will inspect the work performed, review the cost and approve or disapprove requests for payment.
- D. EXPOSURE LOG: With this final payment, the Asbestos abatement contractor shall submit a listing of the names and social security numbers of all employees actively engaged in the abatement work of this Contract. This list shall include a summary showing each part of the abatement work in which the employee was engaged and the dates thereof.

1.08 QUANTITY CALCULATIONS

In order to determine the square footage involved for the various pipe sizes of pipe insulation that might be encountered, the following table is to be used.

PIPE INSULATION SIZE O.D.	PIPE SIZE O.D.	SQUARE FOOTAGE PER LINEAR FOOT
2-1/2"	1/2"	0.65
2-3/4"	3/4"	0.72
3"	1"	0.79
3-1/4"	1-1/4"	0.85
3-1/2"	1-1/2"	0.92
4"	2"	1.05
4-1/2"	2-1/2"	1.18
5"	3"	1.31
6"	3-1/4"	1.57
7"	3-1/2"	1.83
8"	4"	2.09
9"	5"	2.36
10"	6"	2.62
12"	8"	3.14
14"	10"	3.67
16"	12"	4.19
18"	14"	4.71

1.09 METHOD OF PAYMENT

Payment shall be made in accordance with Items A through R below. Payment shall be calculated based on the actual quantity of the item performed by the asbestos abatement

GENERAL CONTRACTOR WORK ALLOWANCE FOR INCIDENTAL ASBESTOS ABATEMENT

contractor, times the unit price specified below. Credits may apply to certain times, as specified below.

- A. **REMOVAL, DISPOSAL AND REPLACEMENT OF ASBESTOS CONTAINING PIPE INSULATION:** Actual linear footage, multiplied by the square footage factor listed for the respective pipe size in Section 1.08, multiplied by the unit price in Section 1.04.

EXAMPLE: 100 lin.ft. of 1/2" pipe and 100 lin.ft. of 6" pipe, including elbows, tees. Flanges, etc.

$100 \times 0.65 = 65 \text{ sq.ft.}$ $65 \times \text{unit price} = \text{Payment}$

$100 \times 2.62 = 262 \text{ sq.ft.}$ $262 \times \text{unit price} = \text{Payment}$

- B. **REMOVAL, DISPOSAL AND REPLACEMENT OF BOILER INSULATION:** (all types including Silicate Block and including the removal/replacement of metal jacketing) Payment shall be made at 1.5 times the unit price per square foot.

EXAMPLE: Item B. removal and replacement of 1000 S.F. of boiler insulation (incl. Silicate block)

$1000 \text{ S.F.} \times (1.5) \times \text{the Unit Price} = \text{Payment}$

- C. **REMOVAL, DISPOSAL AND REPLACEMENT OF TANK INSULATION:** (all types including removal/replacement of metal jacketing) Payment shall be made at 1.5 times the unit price per square foot.

- D. **REMOVAL, DISPOSAL AND REPLACEMENT OF BOILER UPTAKE, & BREACHING INSULATION:** (all types including stiffening angles and wire lath) Payment shall be made at 2.0 times the unit price per square foot.

- E. **REMOVAL, DISPOSAL AND REPLACEMENT OF DUCT INSULATION:** Payment shall be made at 1.0 times the unit price per square foot.

- F. **REMOVAL, DISPOSAL AND REPLACEMENT OF SOFT ASBESTOS CONTAINING MATERIAL:** (Including sprayed-on fire proofing and sound proofing) Payment shall be made at 1.0 times the unit price per square foot of surface area. Area of irregular surfaces must be calculated and confirmed with DDC representative.

- G. **ACOUSTIC PLASTER REPAIR AND/OR ENCAPSULATION:** Payment shall be made at 0.5 times the unit price per square foot.

- H. **PATCHING OR REPAIR** of items listed in A through F will be paid at 0.33 times the unit price per square foot.

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- I. **REMOVAL, DISPOSAL AND REPLACEMENT OF WATERPROOFING ASBESTOS CONTAINING MATERIAL:** (including friable and non-friable waterproofing material from interior and exterior walls, floors, foundations, penetrations, louvers, vents and openings other than windows, doors and skylights) Payment shall be made at 0.5 times the unit price per square foot.
- J. **REMOVAL, DISPOSAL AND REPLACEMENT OF ASBESTOS CONTAINING ELECTRICAL WIRING INSULATION:** (including friable and non-friable wiring insulation) Payment shall be made at 0.33 times the unit price per square foot.
- K. **PAINTING:** Payment shall be made at 0.05 times the unit price per square foot.
- L. **REMOVAL AND DISPOSAL OF ASBESTOS-CONTAINING PLASTER:** from ceilings and walls, including any wire lath and disposal as asbestos containing waste. Payment shall be made at 0.80 times the unit price per square foot.
- M. **REMOVAL AND DISPOSAL OF ASBESTOS-CONTAINING FLOOR TILES, CEILING TILES, TRANSITE PANELS:** (including any adhesive, glue, mastic and/or underlayment) and disposal as asbestos containing waste. Payment shall be made at 0.40 times the unit price per square foot. If multiple layers are discovered, each additional layer shall be paid at 0.20 times the unit price per square foot.
- N. **ADDITIONAL CLEAN UP/HOUSEKEEPING OF WORK AREA:** (excluding pre-cleaning of work area required by regulations) HEPA vacuuming and wet cleaning of asbestos contaminated surface. Payment shall be made at 0.20 times the unit price per square foot. When GLOVE BAG is employed to remove ACM, cost of HEPA vacuuming and wet cleaning of floor area up to 3 feet on each side of glove-bag shall be included in unit price and no extra payment will be made.
- O. **REMOVAL, DISPOSAL OF ASBESTOS-CONTAINING ROOFING MATERIAL:** including mastic, flashing and sealant compound and provide temporary asbestos-free roof covering consisting of one layer of rolled roofing paper sealed with asphaltic roofing compound. Payment shall be made at 0.8 times the unit price per square foot. Credit at a rate of 0.33 times the unit price will be taken for each square foot of temporary roof covering which the Asbestos abatement contractor is directed not to install.
- P. **PICK-UP AND DISPOSAL OF GROSS DEBRIS:** (excluding any waste generated from abatement under Item A-R) at a rate of \$150 per cubic yard for asbestos contaminated waste and \$75 per cubic yard for non-asbestos contaminated waste. This cost includes all labor and material cost associated with work.

- Q. **REMOVAL OF ASBESTOS-CONTAINING BRICK, BLOCK, MORTAR, CEMENT OR CONCRETE:** along with all surfacing materials including wire lath and/or other supporting structures and disposal as ACM waste. Payment shall be made at a rate of \$25.00 per cubic foot of material removed.
- R. **REMOVAL AND DISPOSAL OF ASBESTOS CONTAINING WINDOW/DOOR CAULKING:** including friable and non-friable caulking, weather-stripping, glazing, sealants or other waterproofing materials applied to windows, doors, skylights, etc. Payment shall be made at the rate of \$400.00 per opening regardless of size or configuration. This cost includes labor, consumable materials, set-up/breakdown, removal and disposal, as required.

Note 1: CREDIT: For items listed in A through F, a credit at a rate of 0.33 times the unit price, times the respective multiplier (for each item) will be taken for each square foot of insulation which the asbestos abatement contractor is not directed to reapply.

Note 2: MINIMUM PAYMENT: The minimum payment per call at any individual job sites or various job sites during the same day will be eight hundred dollars (\$800.00).

Note 3: All payments shall be made as described in paragraph 1.09 herein.

Note 4: WORKING HIGHER THAN 12 FEET ABOVE FLOOR LEVEL OR WORK REQUIRING COMPLEX SCAFFOLDING OR CONSTRUCTION WORK PLATFORMS: Provisions are made in this Contract to compensate the Asbestos abatement contractor for work performed in locations that are difficult to access due to work at elevations that are significantly higher than the normal work level. The unit price for these items will be paid at 1.20 times the unit price described in Paragraphs 1.09, A through R for those portions of the work that are more than twelve (12) feet above the grade for that would be judged as the normal working level.

1.10 GUARANTEE

- A. Work performed in compliance with each task shall be guaranteed for a period of one year from the date the completed work is accepted by the Department of Design and Construction.
- B. The Commissioner of The Department of Design and Construction will notify the Asbestos abatement contractor in writing regarding defects in work under the guarantee.

1.11 OCCUPANCY OF SITE NOT EXCLUSIVE

Attention is specifically drawn to the fact that contractors, performing the work of other Contracts, may be brought upon any of the work sites of this Contract. Therefore, the Asbestos abatement contractor shall not have exclusive rights to any site of his work and shall fully cooperate and coordinate his work with the work of other contractors who may

be brought upon any site of the work of this Contract. This paragraph applies to those areas outside the regulated Work Area as defined by Title 15, Chapter I of RCNY.

1.12 SUBMITTALS

A. Pre-Construction Submittals:

1. Attend a pre-construction meeting scheduled by the City of New York Department of Design and Construction. This meeting shall also be attended by a designated representative of the City of New York third party air monitoring firm, facility manager and the Construction Project Manager. At this meeting, the Asbestos abatement contractor shall present three copies of the following items:
 - a. Asbestos abatement contractor's scope of work, work plan and schedule.
 - b. Asbestos project notifications, approved variances and plans to Government Agencies.
 - c. Copies of Permits, clearance and licenses if required.
 - d. Schedules: the Asbestos abatement contractor shall provide to the Construction Project Manager a copy of the following schedules for approval. Once approved, schedules shall be maintained and updated as received. Asbestos abatement contractor shall post a copy of all schedules at the site:
 - (1) A construction schedule stating critical dates of the project including, but not limited to, mobilization, Work Area preparation, demolition, gross removal, fine cleaning, encapsulation, inspections, clearance monitoring, and phase of refinishing and final inspections. The schedule shall be updated biweekly, at a minimum.
 - (2) A schedule of staffing stating number of workers per shift per activity, name and number of supervisor(s) per shift, shifts per day, and total days to be worked.
 - (3) Submit all changes in schedule or staffing to the Construction Project Manager prior to implementation.
 - e. Written description of emergency procedures to be followed in case of injury or fire. This section must include evacuation procedures, source of medical assistance (name and telephone number to nearest

hospital) and procedures to be used for access by medical personnel (examples: first aid squad and physician). NOTE: Necessary Emergency Procedures Shall Take Priority Over All Other Requirements of These Specifications.

- f. Material Safety Data Sheets (MSDS) for encapsulants, sealants, firestopping foam, cleaners/disinfectants, spray adhesive and any and all potentially hazardous materials that may be employed on the project. No work involving the aforementioned will be allowed to proceed until MSDS are reviewed.
- g. Worker Training and Medical Surveillance: The Asbestos abatement contractor shall submit a list of the persons who will be employed by him /her to perform the removal work. Present evidence that workers have received proper training required by the regulations and the medical examinations required by OSHA 29 CFR 1926.1101.
- h. Logs: Specimen copies of daily progress log, visitor's log, and disposal log.
 - (1) The Asbestos abatement contractor shall provide a permanently bound log book of minimum 8-1/2" x 11" size at the entrance to the Worker and Waste Decontamination enclosure system as hereinafter specified. Log book shall contain on title page the project name, name, address and phone number of the Asbestos abatement contractor; name, address and phone number of Asbestos abatement contractor and City's third party air monitoring firm; emergency numbers including, but not limited to local Fire/Rescue Department. Log book shall contain a list of personnel approved for entry into the Work Area.
 - (2) All entries into the log shall be made in non-washable, permanent ink and such pen shall be strung to or otherwise attached to the log to prevent removal from the log-in area. Under no circumstances shall pencil entries be permitted. Any significant events occurring during the abatement project shall be entered into the log. Upon completion of the job, the Asbestos abatement contractor shall submit the logbook containing a day-to-day record of personnel log entries countersigned by the Construction Project Manager every day.
- i. Worker's Acknowledgments: Submit statements signed by each employee that the employee has received training in the proper handling of ACM, understands the health implications and risks

involved; and understands the use and limitations of the respiratory equipment to be used.

B. During Construction Submittals:

1. Security and safety logs showing names of person entering workspace, date and time of entry and exit, record of any accident, emergency evacuation, and any other safety and/or health incident.
2. Progress logs showing the number of workers, supervisors, hours of work and tasks completed shall be submitted daily to the Construction Project Manager.
3. Floor plans indicating Asbestos abatement contractor's current work progress shall be submitted for review by the Construction Project Manager.
4. All Asbestos abatement contractors' air monitoring and inspection results.

C. Project Closeout Submittals:

Upon completion of the project and as a condition of acceptance, the Asbestos abatement contractor shall present two copies of the following items, bound and indexed:

1. Lien Waivers from Asbestos abatement contractor, Sub-Asbestos abatement contractors and Suppliers,
2. Daily OSHA air monitoring results,
3. All Waste Manifests (Asbestos and Construction Debris), seals and disposal logs,
4. Field Sign-In/Sign-Out Logs for every shift,
5. Copies of all Building Department Forms and Permits,
6. A Letter of Compliance stating that all the work on this project was performed in accordance with the Specifications and all applicable Federal, State and Local regulations,
7. All Warranties as stated in the Specifications,
 - a. Fully executed disposal certificates and transportation manifest.

8. Project Record: The Asbestos abatement contractor shall maintain a project record for all small and large asbestos projects. During the project, the project record shall be kept on site at all times. Upon completion of the project, the project record shall be maintained by the building owner. The project record shall be submitted to DDC as part of the close out documents. The project record shall consist of:
 - a. Copies of licenses of all asbestos abatement contractors involved in the project;
 - b. Copies of NYCDEP and NYSDOL supervisor and handler certificates for all workers engaged in the project;
 - c. Copies of all project notifications and reports filed with NYCDEP, NYSDOL and USEPA for the project, with any amendments or variances;
 - d. Copies of all asbestos abatement permits, including associated approved plans and work place safety plan;
 - e. A copy of the air sampling log and all air sampling results;
 - f. A copy of the abatement asbestos abatement contractor's daily log book;
 - g. Copies of all asbestos waste manifests;
 - h. A copy of all Project Monitor's Reports (ACP-15).
 - i. A copy of each ATR-1 Form completed for the asbestos project (if required).
 - j. A copy of each Asbestos Project Conditional Closeout Report (ACP-20) if required.
 - k. A copy of the Asbestos Project Completion Form (ACP-21).

1.13 PROTECTION OF FURNITURE AND EQUIPMENT

Cover all furniture and equipment that cannot be removed from Work Areas. Movable furniture and equipment will be removed from Work Areas by the Asbestos abatement contractor prior to start of work. At the conclusion of the work (after final air testing), the Asbestos abatement contractor will remove all plastic covering on walls, floors, furniture, equipment and reinstall furniture and equipment. He shall remove and store all sheaths, curtains and drapes, and reinstall same following final clean up.

1.14 UTILITIES

A. General:

All temporary facilities shall be subject to the approval of the Commissioner. Prior to starting work at any site, locations and/or sketches (if required) of temporary facilities must be submitted to the Construction Project Manager for the required approval.

B. Water:

The Department of Design and Construction will furnish all water needed for construction, at no cost to the Asbestos abatement contractor in buildings under their jurisdiction. However, it is the responsibility of the Asbestos abatement contractor to ensure that hot water is provided for showering in the decontamination unit. The Asbestos abatement contractor shall furnish, install and maintain any needed equipment to meet these requirements at his own expense.

C. Electricity:

The Department of Design and Construction will furnish all electricity needed for construction, at no cost to the Asbestos abatement contractor in a building, under their jurisdiction. The Asbestos abatement contractor is responsible for routing the electric power to the abatement Work Area.

All temporary lighting and temporary electrical service for Work Area shall be in weatherproof enclosures and be ground fault protected.

- D. In leased spaces, arrangements for water supplies and electricity must be made with the landlord. However, all such arrangements must be made through and are subject to approval of the Department of Design and Construction. Utilities will be provided at no cost to the Asbestos abatement contractor. However, it is the Asbestos abatement contractor's (or the General contractor's) responsibility to furnish and install a suitable distribution system to the Work Area. This system will be provided at no cost to the City.

1.15 FEES

The Asbestos abatement contractor shall be responsible for any and all fees or charges imposed by Local, State or Federal Law, Rule and Regulation applicable to the work specified herein, including fees or charges which may be imposed subsequent to the date of the Bid opening.

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DESIGN + CONSTRUCTION

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SECTION 03 30 00

CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project.
1. The Contract Drawings.
 2. The Specifications.
 3. The General Conditions.
 4. The Addendum, and
 5. The Contract City of New York Standard Construction Contract.

1.2 DESCRIPTION

- A. The General and Supplementary Conditions accompanying these Specifications are hereby made a part of the requirements for the work under this Division of the Specification.

1.3 SCOPE OF WORK

- A. All labor, materials, equipment and accessories necessary for or incidental to the completion of all concrete superstructure and cement superstructure work, and related items as shown on the drawings, as specified herein, and as required by conditions at the site, are a part of the Contract.
- B. Without restricting the generality of the foregoing, the following items of work are included:
1. Metal deck and formed slabs, concrete encased steel beams and columns.
 2. Floor slabs on ground including vapor barrier over minimum 6" gravel fill under slabs. See Structural Drawings for slab thickness.
 3. Setting non-slip metal nosing at concrete stair treads and platforms. See Architectural Drawings.
 4. Concreting fills as required.



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5. Concreting curbs for roof fans and scuttles, etc.
6. Furnishing and installing expansion joint filler where shown on drawings.
7. Cement floor finishes and dowels required for the work included herein, including mechanical equipment pads, bases and curbs.
8. Surface finishing of all exposed concrete work. Ground surface finishing on exposed concrete ceilings, beams and columns except in unfinished areas or where applied finish is noted on the Architectural Drawings.
9. Setting and grouting of all anchors, hanger supports, ties, blocking, bolts, sockets, sleeves, etc., built into concrete work except inserts specified to be installed under Mechanical Sections. Also furnishing of nailing strips, inserts and anchors as hereinafter specified in this Section.
10. Setting of anchor inserts for elevators, furnished under Elevator Section.
11. Grouting of elevator door sills, buffer channel, window frames.
12. Setting and grouting in frames for smoke hole gratings.
13. Grouting and setting of base plates for structural steel.
14. Cooperation in setting and solidly embedded pit frames and floor drains and similar items furnished under other Sections.
15. Setting of sleeves in roof slabs.
16. Providing bases, curbs and supports for all mechanical equipment. Coordinating with mechanical trades.
17. Providing boxed openings in concrete slabs for pipes and ducts where required and fill unused portion of pipe openings after installation.
18. Dustproofing interior concrete slabs which are to remain exposed with no other finish.
19. Furnishing and installing toggle inserts for hung ceilings in the locations where directed.
20. Temporary bracing as required in connection with work of this section.



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21. All other labor and materials which may reasonably be inferred as needed to make the work of this section complete.

1.4 APPLICABLE CODES AND STANDARDS

- A. General: All work shall be done in accordance with all applicable codes and regulations having jurisdiction. Unless specifically specified otherwise herein or by local ordinance, all work shall be done in accordance with the following codes, standards and specifications, and such requirements shall be binding as if specified directly herein. Only the latest editions (at bid date) of the following codes, standards and specifications shall form part of this Specification to the extent indicated by the reference thereto.

1. New York City Building Code.

2. American Concrete Institute (ACI):

ACI - 211.1 "Recommended Practice for Selecting Proportions for Normal, Heavyweight and Mass Concrete."

ACI - 214 "Evaluation of Results of Tests Used to Determine the Strength of Concrete."

ACI - 301 "Specifications for Structural Concrete for Buildings."

ACI - 304 "Recommended Practice for Measuring, Mixing, Transporting and Placing Concrete."

ACI - 305 "Hot Weather Concreting."

ACI - 306 "Cold Weather Concreting."

ACI - 309 "Consolidation of Concrete."

ACI - 311 "Recommended Practice for Concrete Inspection."

ACI - 315 "Details and Detailing Reinforced Concrete Construction."

ACI - 318 "Building Code Requirements for Reinforced Concrete."

ACI - 347 "Recommended Practice for Concrete Formwork."

3. Concrete Reinforcing Steel Institute (CRSI):

CRSI - 63 "Recommended Practice for Placing Reinforcing Bars."

CRSI - 65 "Recommended Practice for Placing Bar Supports, Specifications and Nomenclature."

4. National Ready Mix Concrete Association (NRMCA):



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- "Concrete Plant Standards" and "Truck Mixer and Agitator Standards."
5. American Welding Society (AWS):

AWS D12.1 "Recommended Practice for Welding Reinforcing Steel, Metal Inserts and Connections in Reinforced Concrete Construction."

6. Wire Reinforcement Institute (WRI):

"Manual of Standard Practice."

7. American Society for Testing and Materials (ASTM):

ASTM A185 "Standard Specification for Welded Steel Wire Fabric for Concrete Reinforcement."

ASTM A615 "Standard Specification for Deformed and Plain Billet Steel Bars for Concrete Reinforcement."

ASTM C31 "Standard Method of Making and Curing Concrete Test Specimens in the Field."

ASTM C33 "Standard Specification for Concrete Aggregate."

ASTM C39 "Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens."

ASTM C42 "Standard Method of Obtaining and Testing Drilled Cores and Sawed Beams of Concrete."

ASTM C94 "Standard Specification for Ready-Mix Concrete."

ASTM C138 "Test of Unit Weight Yield and Air Content (Gravimetric) of Concrete."

ASTM C150 "Standard Specification for Portland Cement."

ASTM C172 "Standard Method of Sampling Fresh Concrete."

ASTM C173 "Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method."

ASTM C192 "Standard Method of Making and Curing Concrete Test Specimens in the Laboratory."

ASTM C231 "Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method."

ASTM C330 "Standard Specification for Lightweight Aggregates for



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Structural Concrete."

ASTM C494 "Specification for Chemical Admixtures for Concrete."

- B. Conflicts: The Contractor shall conform to the requirements of the above standards unless specified otherwise hereinbelow. In case of apparent conflict between standards or between standards and the specifications hereinbelow, the more restrictive requirement shall control.

1.5 SUBMITTALS

- A. Details shall be carried out in accordance with the New York City Building Code and where no requirements are set forth in the Code, with ACI rules and as shown on the Drawings.
- B. Regardless of any details or instructions shown on the drawings or called for in these Specifications, the Contractor will be required to comply with all regulations, rules, requirements and specifications of the New York City Building Code and shall thoroughly familiarize himself with them.
- C. Shop Drawings:
1. The Contractor shall submit for approval of the Commissioner shop drawings showing reinforcement and all necessary bending diagrams and reinforcing steel list, and construction joint locations.
 2. Shop drawings shall be prepared and submitted in accordance with requirements of "Conditions." Dimensions, bar schedules and bending details shall be shown. Reinforced concrete walls shall be shown in scale elevation (scale at least one quarter inch to one foot). Two prints and one transparency (sepia) shall be submitted for each submission. Details shall be in accordance with ACI rules. Reinforcing for flat slabs shall have top steel and bottom steel on separate Drawings.
 3. The Commissioner shall within reasonable time either accept the drawings or return them for revision. Drawings marked "Approved as Noted" can be released to the field and must be resubmitted for record. "Rejected" or "Revised and Resubmit" drawings must be resubmitted and cannot be released to the field.
 5. The Contractor shall keep a set of shop drawings with the Commissioner's acceptance stamp on the job site at all times.
 6. The Commissioner's acceptance stamp shall not relieve the Contractor of responsibility for any error or for furnishing material of the proper size, quantity or quality.
- D. Mill Test Certificates: With each shipment of these materials, the Contractor shall submit mill test certificates for the cement and for the steel



reinforcement.

- E. Deviations: Should the Contractor desire, a deviation from the drawings or specifications, or both, he shall call the specific deviation to the Commissioner's attention in writing prior to the submittal of shop drawings showing the subject deviation. Requests for deviations shall be submitted on the Contractor's letterhead. Deviations not identified, or identified only in letters of transmittal or in shop drawings or both, without the required written description on the Contractor's letterhead may not be accepted and shall be sufficient cause for the Commissioner to return each shop drawing including such deviations, rejected, without further action. Acceptance of shop drawings including deviations not detected by the Commissioner during shop drawing review shall not relieve the Contractor from responsibility to conform strictly to the Contract documents. Deviations will be allowed only where permitted by the Commissioner in writing.

1.6 JOB CONDITIONS

- A. The Contractor, before commencing work, shall examine all adjoining work on which this work is in any way dependent for proper installation and perfect workmanship according to the extent of this specification, and shall report to the Commissioner any conditions which prevent this Contractor from performing first-class work; no "waiver of responsibility" for defective adjoining work will be considered unless notice has been filed by the Contractor and acceded to in writing by the Commissioner before this Contractor begins any part of this work.
- B. The Contractor shall supply a competent engineer or surveyor to establish all lines and levels necessary to the proper locating, laying out and erecting his work.

1.7 QUALITY ASSURANCE

- A. Procedures of Work: The Contractor shall keep himself constantly informed as to the progress of the work in the field, and have his materials and men ready to start work immediately when conditions of preceding work are available or ready; wholly or in part, so as not to delay the progress of building work or to interfere with the progress of work of other Contractors, in any event he shall, within 24 hours after notice from the Commissioner to proceed with such work as directed to maintain the uninterrupted progress of the work.

1.8 QUALITY CONTROL

- A. Testing of Concrete Materials:

1. Sand shall be tested for the requirements herein before specified.



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2. Colorimetric tests, sieve analysis, sediment tests, comparative tensile tests shall be made at the start of the job. Additional tests may be required by the City of New York Inspector if the source of supply of material is changed. These additional tests (if required) shall be made at the Contractor's expense.
3. Coarse aggregate shall be tested for requirements hereinafter specified. If, after approval, the character of the material changes, it shall be subjected to further tests for approval or rejection. If, after trial, it is found that partly developed quarries, ledges, pits, banks or other sources of supply do not furnish a uniform product or, if for any reason the product from any source, at any time, proves to be unsatisfactory to the City of New York Inspector, the Contractor shall furnish acceptable material from other sources of supply, at no additional cost to the City of New York. Samples and tests shall be taken and made on each 200 tons of fine aggregate to be used in the work, all in accordance with the ASTM Standards herein specified and before each allotment is used in the work.
4. All tests required under this Section will be made at a laboratory approved by the City of New York Inspector, and the cost of any inspection and test so required will be paid for by the City of New York.

B. Concrete Tests:

1. The City of New York Inspector and the City of New York shall have the right to order the making of load tests and compression tests on specimen taken from the concrete work, in place of any other tests during the course of construction. If these tests do not meet specifications, concrete work shall be removed and replaced without cost to the City of New York.
2. The Contractor shall be responsible for additional architectural and engineering fees on any additional work required, when original field tests made in accordance with the Building Code have failed.
3. The City of New York shall engage the services of a licensed professional inspector, to observe the testing of materials, to observe the construction of all structural concrete work and to file with and obtain all necessary approvals of the Department of Buildings and all other agencies having jurisdiction in accordance with applicable provisions of the Administrative Code of the City of New York Specifications.

C. Concrete - Tests and Supervision:

1. Concrete unless otherwise specified, shall be controlled concrete.



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2. Preliminary tests for the purpose of determining concrete mixes, in accordance with Chapter 4 of the ACI Building Code, and tests of cement and other concrete materials will be made at a laboratory approved by the City of New York Inspector. The Contractor shall have his representative present when preliminary tests are made. It shall be the responsibility of the Contractor to satisfy himself that concrete mixes, based on the results of the preliminary tests, will produce concrete strengths as required by the Contract.

Form TR-3: Technical Report Concrete Design Mix: the contractor shall be responsible for, and bear all costs associated with the filing and securing of approvals, if any, for Form TR-3: Technical Report Concrete Design Mix, including, but not limited to, engaging the services of a New York City licensed Concrete Testing Lab for the review and approval of concrete design mix, testing, signatures and professional seals, etc., compliant with NYC Department of Buildings requirements, for each concrete design mix.

3. Cement and other concrete materials will be given preliminary tests. Approval of concrete materials will be conditional on acceptable results of preliminary tests and approval of preliminary test results by the Department of Buildings.
4. A representative of the supplier in addition to that of the testing laboratory, shall supervise at the start of concrete operations the batching at the plant and the placing of concrete at the site in accordance with his instructions and to the satisfaction of the City of New York Inspector.
5. The ultimate strength of concrete shall be as specified on the Structural Drawings.
6. The Contractor shall furnish all materials to be tested and shall cooperate and provide ever assistance to facilitate the work of inspection and testing.
7. If the results of these tests and inspections indicate that the concrete does not meet requirements as set forth on the drawings or in these Specifications or as otherwise unsatisfactory, the Contractor shall only proceed as will be directed by the City of New York Inspector. Additional costs resulting from retesting, load testing, replacement of concrete and/or damage to the work of other trades and any delay caused to the schedule shall be borne by the Contractor.
8. If, during the progress of the work, it is found that concrete of the required workability and strength cannot be attained with the materials furnished by the Contractor, the City of New York Inspector may order such changes in proportions or materials, or both, as may be necessary to secure the desired results. Any changes so ordered



will be at no cost to the City of New York.

PART 2 - PRODUCTS

2.1 CEMENT

- A. Portland Cement, meeting all requirements for Type I and/or Type III Cement of the Standard Specifications for Portland Cement of the American Society for Testing and Materials Designation C-150 (current edition), shall be used for all work. All the cement shall be stored in waterproof sheds. The Contractor shall submit mill test certificates for cement. Color of any exposed concrete is to be approved by the Commissioner. Air entrained cement shall not be permitted.
- B. During the course of construction no change shall be made to brand of cement unless approved by the Commissioner.
- C. Cement shall be delivered and bear the name of the manufacturer and the brand and mill test certificates shall be submitted with each shipment. All cement shall be from one manufacturer.
- D. Cement shall be stored in waterproof bins, completely covered and protected from dampness. Cement in any container which has been caked, partially set, or otherwise deteriorated, or any material which has become damaged or contaminated, shall be rejected for use and shall be entirely removed from the site.
- E. The Commissioner reserves the right to take samples for testing any or every lot of cement delivered upon the work. The tests shall be made as determined by the Commissioner and the cost of these shall be charged to the Commissioner when cement meets Specification requirements.
- F. The use of high early strength cement shall be in accordance with Building Department Rules and Schedules. The use of high early strength cement Type III is not permitted except under special conditions and only on the express approval of the Commissioner. The use of high early strength cement will not be permitted except during the months of November, December, January, February and March. When such approval is given, it will be restricted to a specific location and limited to a given period of time. When permission has been given to use high early strength cement, a cement batching plant shall be set aside exclusively for high early strength concrete during the time that this concrete is being supplied to the project. All cement bins shall be properly painted with a distinctive color.

2.3 ADMIXTURES



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- A. For all exposed concrete an admixture shall be furnished which, when added to the mix, shall produce concrete compression strength at 7 days and 28 days as required by the Design Drawings and in compliance with the "water-cement laws." Such admixture shall entrain between 4% and 6% air by volume. The air entraining agent shall be Darex or approved equal. The air entrainment may be checked by as per ASTM C-260. Acceptable documentary evidence must be submitted with additives showing this material increases the durability of the concrete, and that such material has been in use for not less than 5 years. Air entrained cement is not permitted. All concrete cast on ground, such as ramps and slabs on grade shall have air entraining agent specified above.
- B. Water Reducing Admixture: "Eucon WR-75" by the Euclid Chemical Co., "Pozzolith 200N" by Master Builders or "Plastocrete 160" by Sika Chemical Corp., or approved equal. The admixture shall conform to ASTM C 494, Type A and not contain more chloride ions than are present in municipal drinking water.
- C. Water Reducing, Retarding Admixture: "Eucon Retarder-75" by the Euclid Chemical Co., "Pozzolith 100XR" by Master Builders or "Plastiment" by Sika Chemical Corp., or approved equal. The admixture shall conform to ASTM 494, Type D and not contain more chloride ions than are present in municipal drinking water.
- D. High Range Water-Reducing Admixture (Superplasticizer): "Eucon 37" by the Euclid Chemical Co. or "Sikament" by Sika Chemical Corp., or approved equal. The admixture shall conform to ASTM C 494, Type F or G, and not contain more chloride ions than are present in municipal drinking water.
- E. Non-Corrosive, Non-Chloride Accelerator: "Accelguard 80" by the Euclid Chemical Company or approved equal. The admixture shall conform to ASTM C 494, Type C or E, and not contain more chloride ions than are present in municipal drinking water. The admixture manufacturer must have long-term non-corrosive test data from an independent testing laboratory (of at least a year's duration) using an acceptable accelerated corrosion test method such as that using electrical potential measures.
- F. Prohibited Admixtures: Calcium chloride, thiocyanates or admixtures containing more than 0.05% chloride ions are not permitted.
- G. Certification: Written conformance to the above mentioned requirements and the chloride ion content of the admixture will be required from the admixture manufacturer prior to mix design review by the Commissioner.

2.4 FINE AGGREGATE

- A. Fine aggregate shall consist of sand, stone screenings or other inert materials with similar characteristics, or a combination thereof conforming to ASTM C-33 having clean, hard, strong, durable uncoated grains and free



from injurious amounts of dust, lumps, soft or flaky particles, shales, alkali, organic matter, loam or other deleterious substances.

B. Sand shall meet the following requirements:

1. Colorimetric test in accordance with ASTM Designation C-40 current edition, color not darker than Figure 1.
2. Sediment test for excess loam (5% limit).
3. Sieve analysis as follows:

Sieve No.	% Retained
4	0 to 5
8	10 to 20
16	40 to 70
30	40 to 70
50	70 to 88
100	92 to 98

4. Fineness modulus shall be from 2.30 to 2.90.
5. No mica pyrites or other deleterious materials.
6. The mortar made with this sand must produce tensile strength at least equal to 80% of Ottawa Sand Mortar Briquettes, of the proportions of one part of cement to three parts of sand.

2.5 COARSE AGGREGATE

- A. Coarse aggregate for stone concrete slabs shall consist of crushed stone, or gravel having clean, hard, strong, durable, uncoated particles free from injurious amounts of soft, friable, thin, elongated or laminated pieces, alkali, organic or other deleterious matter. Particles shall be well graded between the upper and lower limit in order that voids may be reduced to a minimum as follows:

Sieve Size	% Retained
1"	0
3/4"	0 - 10
3/8"	45 - 80
No. 4	90 - 100

2.6 WATER

- A. Water for concrete shall be clean and free from oil, acid alkali, organic matter or other deleterious substances.



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2.7 REINFORCEMENT

- A. Reinforcing bars shall be deformed new billet steel bars manufactured by the basic open hearth or electric furnace process. Bars shall conform to ASTM A-615, Grade 60.
- B. Welded wire fabric shall conform to ASTM A-82 and A-185. Wire fabric shall have a minimum ultimate strength of 70,000 psi. Splicing shall conform to the requirements of ACI 318.
- C. Certified copies of mill reports for all reinforcing shall be submitted before reinforcing is placed.
- D. Bars shall be correctly rolled to section and free from surface defects.
- E. Splices in reinforcement shall be as directed. Lapped ends of bars may be placed in contact and securely wired or may be separated sufficiently to permit the embedment of the entire surface of each bar in concrete. Lapped splices shall not be used in bars larger than size No. 11. Splices in bars larger than No. 11, or where No. 11 bars are spliced to larger sizes, shall be welded as hereinafter specified. Splices in bars No. 11 and smaller may be welded as specified or lapped. Splices in adjacent bars shall be staggered.

2.8 FORMS

- A. The Contractor shall be responsible for the proper design, bracing, shoring and construction of all forms. He shall retain a licensed professional engineer to design such formwork, bracing and shoring in accordance with the requirements of the local Building Code.
- B. Form ties including bolts and rods shall be of suitable design and adequate strength for the purpose.
- C. Supports for forms shall consist of wood or steel posts.

2.9 CONCRETE ADMIXTURE

- A. All concrete required to be air-entrained shall contain an approved air-entraining admixture. All pumped concrete and concrete with a water/cement ratio below 0.150 shall contain the specified HRWR admixture, (superplasticizer).

2.10 MISCELLANEOUS MATERIALS

- A. Premolded expansion joint filler strips shall be expanded polyethylene closed cell of approved type and size, as indicated on the drawings. Premolded fillers shall have adhesive surface on one side and shall be positioned as the construction progresses. Fillers shall be at least 30% wider than width of joint, (measured in the field) to which it is applied. Compression on installed



filler shall be sufficient to allow no movement of filler in joint. Hardness shall be between 15-20 Shore A value. The methods employed in installing expansion joint fillers shall be according to procedures required by the approved product.

- B. Six mil thick polyethylene vapor barrier over subgrade of 6" of gravel (by others) shall be provided under all slabs on ground supplied in the widest possible widths and lapped not less than 6" on all sides and turned up a minimum of 4" along the perimeter edges of the stone slab. Installation is to be in accordance with manufacturer's recommendations. At all columns and interior concrete walls vapor barrier is to be lapped up 4" minimum. Note areas to receive 3 inches of approved damp compactible fill before placing of concrete.
- C. Clear Curing and Sealing Compound (VOC compliant): The compound shall have 30% solids content minimum, and will not yellow under ultraviolet light after 500 hours of test in accordance with ASTM D4887. Compound shall be "Super Aqua Cure VOX" or "Super Diamond Clear VOX" by the Euclid Chemical Company, or "Masterseal" by Master Builders or approved equal.
- D. Sealer/Dustproofer: The compound shall be a water-based acrylic sealer and shall not yellow under ultraviolet light after 200 hours of test in accordance with ASTM D4887. Compound shall be "Floor Seal VOX" by the Euclid Chemical Company, or approved equal.
- E. Non-Shrink Grout: The non-shrink grout shall be "Hi-Mod" (non-catalyzed metallic) or "Euco NS" (non-metallic) by the Euclid Chemical Co., or "Embeco 636" (non-catalyzed metallic) or "Masterflow 713" (non-metallic) by Master Builders or approved equal. The grout shall conform to CRD-C-621-83, "Corps of Engineers Specification for Non-Shrink Grout," having a minimum compressive strength of 10,000 psi.

PART 3 - EXECUTION

3.1 MIXING

- A. All concrete shall be machine mixed.
- B. A water gauge shall be provided to deliver the exact predetermined amount of water for each batch.
- C. A reliable system must be employed to insure that no less than the predetermined amount of cement goes into each batch.
- D. Retempering partly set concrete will not be permitted.

3.2 PLACING OF CONCRETE



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- A. Metal decks and/or forms shall be absolutely cleaned and free from shavings and dirt before starting concreting.
- B. Concrete must be placed as rapidly as possible after mixing and thoroughly spaded and rammed in place. All possible care is to be exercised to prevent honeycombing and segregation.
- C. Permissible locations of construction joints and additional reinforcement required shall be as shown on the Drawings. Where new concrete is to be bonded to the existing concrete, the surfaces of the existing concrete shall be swept with a stiff brush or scraped to remove laitance and roughened. The bonding surface after the removal of all loose particles shall be moistened and the specified bonding compound applied.
- D. Structural concrete shall be placed with the aid of a mechanical vibrator. The vibrators shall be of a type and design approved and shall be capable of transmitting to the concrete not less than 3200 impulses per minute. The vibration shall be sufficiently intense to visibly affect the concrete over a definite radius of at least two feet around the point of application but not applied long enough to segregate the ingredients. Enough vibrators shall be used to cause all concrete to flow or settle readily into place. The vibrators shall be of the internal type, applied directly to the concrete and not through the forms, except sections too thin to permit the insertion of the internal type in which case form vibrators may be employed at the discretion of the Commissioner. Use and type of vibrators shall conform to ACI 309 "Recommended Practice for Consolidation of Concrete."
- E. Concrete, if placed in hot weather, shall be wet twice daily for the first week's placement. Maximum placing temperature is to be 90 degrees F.
- F. No concrete shall be deposited in water.
- G. When depositing concrete at temperatures below 40 degrees F, the concrete shall have a temperature of at least 50 degrees F, but not more than 90 degrees F. The concrete shall be maintained at a temperature of at least 50 degrees F for not less than 72 hours after depositing and shall be sufficiently protected so that this temperature can be maintained. No salt or other chemical may be used for such protection.
 - 1. The heating devices used by the Contractor to maintain the specified temperatures shall have baffle plate above, of sufficient size, and a sand bed below, in order to distribute heat.
 - 2. The heating devices shall be so operated that the temperature of the air immediately below the slab forms shall not exceed 100 degrees F. The Contractor shall provide sufficient and suitable thermometers to verify compliance.
 - 3. Only the specified non-corrosive non-chloride accelerator shall be used. Calcium chloride, thiocyanates or admixtures containing more



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than 0.05% chloride ions are not permitted.

- H. Concrete placed in "winter weather" shall be protected against freezing; no concrete containing ice shall be used. Definition of "winter weather" and protection of such placed concrete shall be as specified in ACI 306R, Chapters 1 and 4, respectively.
- I. Concrete on metal deck and structural steel shall be placed as follows:
 - 1. At areas with cambered beams or girders:

Floor slabs at areas with cambered beams or girders shall be placed with uniform minimum thickness of concrete as called for on the plans over the entire area by using hard screed. In cases where the floor assembly deflects below the level line after concrete is placed, additional concrete is to be provided to maintain floor tolerances as noted in the specification. Placement shall begin at the mid span or high point of the beams or girders and proceed toward each end.
 - 2. At areas where beams are not cambered:

Floor slabs shall be poured to the floor levelness as noted in the specification by adding concrete and maintaining the minimum thickness of slab as called for on the plans. The additional concrete required to maintain the specified floor levelness shall be included in the contract.
- J. When pouring against previously placed concrete all rough projects shall be removed before continuing the work to secure a clean true joint. The surface of contact shall be thoroughly cleaned.
- K. Tops of walls such as ramps, areaways and concrete retaining walls which will be permanently exposed, shall be finished with steel trowel. Tops of other walls and grade beams shall be floated level and true. The surface of ramp floors shall be screeded, darried, floated and finally broomed to form a rough surface.
- L. If any material is used to coat form work to facilitate the removal, this material shall be such nature as not to stain or injure the concrete, or cause injury to the painted finish to be applied on exposed surfaces of the concrete.
- M. Temporary shoring at mid span of all metal deck as required shall be provided.
- N. Forms shall not be removed until the concrete has attained the strength to support its own weight and any construction loads. Under no circumstances shall forms be stripped before concrete has aged 48 hours unless otherwise approved by the Commissioner.



- O. All floors shall be measured in accordance with ASTM E-1155 "Standard Test Method for Determining Floor Flatness and Levelness Using the "F Number" System (Inch-Pound Units).
- P. All trowel finished slabs shall achieve an overall tolerance of F_{25}/F_{L20} and all float finished surfaces shall achieve an overall F_{20}/F_{L17} tolerance. The minimum local tolerance (1/2 bay or as designated by the Commissioner) shall be 2/3 of the specified tolerances.

3.3 PLACING REINFORCEMENT

- A. All metal reinforcement, before being placed, shall be free from loose rust or mill scale, grease, oil, clay or other coatings, or from substances that destroy or reduce the bond. Metal reinforcements shall be accurately positioned as called for on the drawings and shall be secured against displacement by using annealed wire of not less than No. 18 gauge, or by suitable clips at intersections and shall be supported on adequate spacers, bolsters and chairs except that reinforcement required for concrete to be placed on ground shall be supported on concrete briquettes at least 2" wide and 3" long and of a thickness to maintain at least clearances shown on the structural drawings. Chairs shall be plastic tipped. Other accessories may, at the option of the Contractor, be zinc coated, except on exposed surfaces which have plastic tipped accessories.
- B. The top wire of all spacers, bolsters and chairs shall be corrugated.
- C. Top reinforcement in slabs may be provided with transverse tie bars. Unless larger sizes or closer spacing is indicated on the drawings, these bars shall be a minimum No. 3 bars, 12" on center for roofs. Chairs supporting slab reinforcement shall be spaced as required by the drawings but shall not be more than 5 feet on center for bottom bars or more than 4 feet on center for top slab bars. Where top slab bars are more than 9 feet long, at least four rows of chairs will be required except where other equivalent support is supplied. For flat slab construction provide two additional parallel chairs equal to the column face in length and located 4" from opposite faces of interior columns for the support of top reinforcement.
- D. High chairs shall be of the two different sizes so as to provide the cover over reinforcing bars as indicated on plans. They shall be made of No. 2 gauge wire for legs, with legs 8" o/c.
- E. Reinforcement shall be bent cold. The minimum radius of bend shall be 4 diameters for bars 5/8" round or less, and 6 diameters for larger bars.
- F. Where lapping or anchoring of reinforced steel is specified on the drawings in relation to the diameter of the bar, the actual diameter shall be taken. The actual diameter is defined as follows:

No. 3 bar .375" No. 8 bar 1.00"
No. 4 bar .500" No. 9 bar 1.128"



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No. 5 bar .625" No. 10 bar 1.270"
No. 6 bar .750" No. 11 bar 1.410"
No. 7 bar .875"

3.4 CONCRETE FINISHING AND CURING

- A. Surfaces of floor slabs where ceramic or terrazzo is specified for finish shall be screeded and roughened and left in a condition satisfactory to the Commissioner. Where carpet or vinyl tile is specified in Schedule of Interior Finishes, surfaces shall be steel troweled to provide suitable base for receiving the tile floor covering.
- B. After the concrete has reached its initial set and is free from excess water, the top surface of all floors and roof slabs shall be treated with a curing material. Apply in accordance with manufacturer's directions.
 - 1. During at least the first twelve hours after application, this film shall have a distinct color, all traces of which shall be invisible 30 days later so that the natural appearance of concrete is not changed. This material shall have no harmful effect upon concrete but shall form a film which, at the end of three days after application, retains in the concrete at least 90% of water if tested according to the ASTM Tentative Method of Testing for Water Retention by Curing Concrete Materials, C-156. Protect work during construction.

3.5 FLOOR PAVING

- A. Unless otherwise noted, monolithic floor slabs on ground, except supported slabs, shall be of strength and reinforcement as shown on the drawings.
- B. All soil or fill under concrete slabs on ground, except supported slabs, shall be thoroughly wet with water and tamped down or rolled down before depositing any concrete.
- C. On top of porous fill placed under another Section, install 6 mil polyethylene vapor seal, lapped 6" at sides and ends and spot cemented. Care shall be taken not to tear the seal during pouring.
- D. Where pipes under floor slabs are indicated on the drawings or have already been installed, the Contractor shall install the slab reinforcing and concrete to support the pipes as shown on the drawings.

3.6 CEMENT BASE

- A. Cement base occurring as noted on Schedule of Interior Finishes shall be of the same material as the cement floors in these rooms. Base shall be 4" high above the finished floor and shall be plain straight base.
- B. At concrete walls and columns, the concrete shall be chipped slightly or otherwise roughened and prepared to provide a strong bond for the cement



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base.

- C. Cement bases shall be hydrolithic cement, using an approved integral waterproofing compound, at least 1" thick as shown on the drawings. Mix shall be one part hydrolithic cement and three parts sand.

3.7 WORK IN CONNECTION WITH OTHER SECTIONS

- A. Pipe Shaft: All boxed openings at pipe shafts in floors and roofs shall be installed as shown on drawings in accordance with approved shop drawings prepared by the Contractor. Spaces between pipe sleeves shall be filled up with 3000 psi minimum concrete after same are in place. All grouting shall be done with cement and filled as required or necessary throughout the project.
- B. Ventilating Duct Openings: All ventilating duct opening in floors and roofs are to be laid out in accordance with approved shop drawings prepared by Contractor.
- C. Non-slip treads provided under the Ornamental Metal Section for treads and platforms of concrete stairs where shown on drawings shall be set.
 - 1. Pea-gravel concrete of 3000 psi over metal pan stairs and landings reinforced with 4 x 4 - W1.4 x W14. w.w.f. shall be provided.
- D. The Contractor shall locate of all sleeves.
- E. All inserts for elevators (furnished by Contractor) shall be set. All cutouts, offsets, etc., for proper installation of elevators according to approved shop drawings for elevators shall be provided. All this work shall be under the supervision of the Contractor, and to the satisfaction of the Commissioner.
- F. All pipe sleeves carried through floor slabs shall be carefully pointed around to present a neat finish.
- G. All buffer channels and door saddles for elevators shall be grouted in.
- H. Frames and covers furnished under Plumbing and Miscellaneous and Ornamental Metal Sections for all house traps, pits, etc. shall be solidly embedded.
- I. Cooperate in setting floor drains, frames and covers for sump pits and all other similar fittings called for in the Plumbing Section.
- J. Anchor bolts shall be installed, lintel and other structural members furnished under other Sections of the work where same are shown embedded in concrete work shall be set.
- K. Reglets and grounds for flashings as required by the drawings shall be built in.



- L. For embedded items such as threaded or wedge inserts and anchor bolts, the following shall be done:
 - 1. Compliance with ACI 301, Chapter 6, Paragraph 6.4 and 6.5.
 - 2. Anchorage devices are to be accurately set by line and transit, and the location of all anchorage devices to set for the accommodation of the work of other trades is to be coordinated.
 - 3. Anchor bolts as shown on the Drawings and on shop drawings are to be located.
- M. The Contractor is alerted that he is not to place concrete until other trades have completely finished their work of installing embedded items.

3.8 DUSTPROOFING APPLICATION

- A. Treatment - All concrete surfaces receiving a dustproofing treatment shall have all materials mixed and applied in accordance with the application method as recommended by the approved product. The material shall be such that it will react chemically with any free lime and calcium carbonate in the concrete to create a hard insoluble concrete surface for heavy traffic and to prevent dusting, checking and crumbling.
- B. Dustproofing materials shall be applied to all concrete and cement finish wearing surfaces only after such surfaces have been thoroughly cleaned, and properly prepared to receive the dustproofing application.
 - 1. Flood Coats - Dustproofing shall be applied in two flooding coats of such inconsistency as to thoroughly and uniformly saturate the surface and attain the necessary penetration.
 - 2. Elimination of Film - Dustproofing application shall be performed with a wide brush, and material shall be thoroughly brushed out to eliminate as much of the surface film as is possible.
- C. Abrasive Test - All treated surfaces shall be subjected to an abrasion test applied with a stiff steel wire brush to a portion of the floor designated by the Commissioner. The test shall be made by the Contractor in the presence of a representative of the Commissioner. The surface shall not dust under the strokes of the steel wire brush, but shall polish, without the appearance of abrasions.

3.9 DAMAGED MATERIAL

- A. All material which have been damaged or condemned shall be removed from the site.

3.10 CUTTING AND PATCHING



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- A. The Contractor shall be responsible for all cutting and patching of his work as specified in General Conditions of Contract.
- B. The Contractor is referred to the Mechanical Drawings and Specifications for Plumbing, Heating and Ventilating, Electrical and Elevator Systems.

3.11 REPAIR OF DEFECTIVE AREAS

- A. With prior approval of the Commissioner, as to method and procedure, all repairs of defective areas shall conform to ACI 301, Chapter 9.
- B. All structural repairs shall be made with prior approval of the Commissioner, as to method and procedure, using an approved epoxy adhesive and/or epoxy mortar.
- C. Leveling of floors for subsequent finishes shall be achieved by use of an approved underlayment material.

3.12 CONCRETE BASES FOR PUMPS AND MOTORS

- A. Concrete bases and required anchor bolts, or other anchoring devices for all pumps, motors, etc., shall be installed as required by the Heating and Plumbing Section.
- B. Bases shall be at least 2" greater on all sides than bases of the equipment to be installed.
- C. Anchors from templates provided by others shall be set.
- D. Concrete bases for house pumps:
 - 1. 3/4" galvanized threaded dowels, provided by others in the concrete floor shall be installed.
 - 2. 6" x 4" angle frame, provided by others, shall be installed.
 - 3. Concrete base with top flush with top of 6" vertical leg of angle frame shall be installed.

3.13 CONCRETE FILL IN FLOOR SLOTS FOR PIPES

- A. All slots in floors provided for passage of pipes and ducts shall be filled with concrete the full thickness of slabs.
- B. Sleeves for pipes, provided by others, shall be properly aligned and set before slots are filled with concrete.

3.14 CLEANING

- A. The premises shall be kept free from accumulation of waste material or rubbish. At the completion of the work, all surplus materials, tools and



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1. 3/4" galvanized threaded dowels, provided by others in the concrete floor shall be installed.
2. 6" x 4" angle frame, provided by others, shall be installed.
3. Concrete base with top flush with top of 6" vertical leg of angle frame shall be installed.

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3.14 CLEANING

- A. The premises shall be kept free from accumulation of waste material or rubbish. At the completion of the work, all surplus materials, tools and equipment shall be removed.

END OF SECTION



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SECTION 04 20 00

UNIT MASONRY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project:
 - 1. The Contract Drawings
 - 2. The Specifications
 - 3. The General Conditions
 - 4. The Addendum, and
 - 5. The Contract City of New York Standard Construction Contract

1.2 SUMMARY

- A. Section includes:
 - 1. Unit Masonry

1.3 DEFINITIONS

- A. Low-Pressure Spray: 100 to 400 psi (690 to 2750 kPa); 4 to 6 gpm (0.25 to 0.4 L/s).
- B. Rebuilding (Setting) Mortar: Mortar used to set and anchor masonry in a structure, distinct from pointing mortar installed after masonry is set in place.
- C. Rift: The most pronounced direction of splitting or cleavage of a stone or masonry.
- D. Masonry Terminology: ASTM C 119.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.
 - 2. Include recommendations for product application and use. Include test data substantiating that products comply with requirements.

1.5 QUALITY ASSURANCE

- A. All unit masonry, except as otherwise specified, shall be laid in Portland cement



mortar, and shall be built to the forms and dimensions shown on the Contract Drawings. The system of joining or bonding on the drawings shall be strictly followed.

1.6 WATER NOT TO INTERFERE

- A. Care shall be taken that no water shall interfere with the proper laying of unit masonry in any of its parts.

1.7 FREEZING WEATHER

- A. During freezing weather no masonry shall be built unless properly protected against frost, and masonry shall not be built in exposed places without adequate protection. During freezing weather or when there is frost in the materials to be used in the masonry, the materials shall be heated before mixing so as to remove all the frost and the mix shall show a temperature of not less than 70 degrees F when placed in the work area. The Contractor shall provide such appliances as are necessary for the heating of the sand, stone and other materials.
- B. During freezing weather all masonry shall be protected by a suitable covering of salt hay, canvas, tarpaulin or by such materials or in such ways as may be necessary to insure proper protection and to insure that the concrete is kept at a temperature of not less than 40 degrees F for a period of five days after placing.

1.8 HOT WEATHER

- A. During hot weather all masonry, especially concrete, shall be kept wet by sprinkling and properly covered until it has become thoroughly set and hardened.

1.9 POINTING

- A. Unless otherwise permitted, every joint that is to be pointed shall be raked out within two days after being laid.
- B. Pointing of the face joints of masonry shall be thoroughly made with cement mortar mixed in the preparation of one part cement to one part sand, except where otherwise specifically provided.
- C. No pointing shall be done in freezing weather; masonry laid between December 1st and April 1st shall not be pointed until permitted by the Commissioner.

1.10 DEFECTIVE MASONRY

- A. Before the final completion and acceptance of the work, any masonry which is found to be defective from any cause whatsoever shall be removed and properly rebuilt, or, if damaged, shall be properly repaired.

1.11 UNIT MASONRY TO BE CLEANED

- A. All unit masonry before being laid shall be thoroughly cleaned and if so directed by the Commissioner shall be washed.



PART 2 - MATERIALS

2.1 CONCRETE BLOCK

- A. Concrete block masonry units shall conform to the requirements of the Standard Specifications for Solid Load-Bearing Concrete Masonry Units of the ASTM Serial Designation: C145, Type I, Grade N-1. Concrete blocks shall be made from approved Portland cement, sand and crushed stone. The net cross-sectional area of the unit in every plan parallel to the bearing surface shall be not less than 75% of its gross-sectional area measured in the same place. All units shall be sound and free from cracks or other defects that would interfere with the proper placing of the unit or impair the strength or permanence of the construction. Minor cracks incidental to the usual method of manufacture, or minor chipping resulting from customary methods of handling in shipment and delivery, shall not be deemed grounds for rejection.
- B. Concrete blocks shall be of the size indicated or as may be required to fit special conditions. Half blocks and blocks of special sizes and shapes shall be provided where required. All blocks shall have smooth faces with unbroken edges in exposed work. Closure blocks with finished ends shall be used at all levels, returns and at ends of walls.

2.2 REINFORCEMENT AND ANCHORS

- A. Horizontal reinforcing frame shall consist of two No. 9 wire side rods and a No. 9 wire separator so bent as to form a truss or triangle when welded to side rods. Anchors shall be 1/8" by 1"; one end bent for securing to walls and columns or dovetailed for anchor channels, the other end to be deformed as may be required. Dowels shall be 3/8" in diameter. All anchors and ties shall be galvanized steel.

2.3 SEALANT STRIP

- A. Sealant strip shall be 3/8" continuous POLY-TITE as manufactured by Sandell Manufacturing Co., or approved equal. Sealant strip shall be provided where so indicated on the contract drawings.

2.4 NEOPRENE ROPE

- A. Neoprene rope shall be closed cell bonded neoprene conforming to ASTM Designation D1752.

PART 3 - EXECUTION

3.1 MASONRY UNITS

- A. All masonry units shall be laid in Type N mortar.
- B. Concrete block shall be laid plumb, square and true to the dimensions given and shall be laid with the voids running vertically whether indicated on the contract drawings otherwise or not. Bearing surfaces of blocks shall have a mortar bed placed between face of blocks and cell voids. No mortar shall be placed on the



webs. Vertical joints between hollow tile blocks shall have only the vertical ends of the blocks buttered with mortar. Joints shall be approximately 3/8" in width. Excess mortar shall not be cut off in such a manner that it will pull the mortar from the contiguous block surface. The vertical height of the wall that will be permitted to be laid up shall not be greater than a height that the mortar of previously laid courses will be capable of supporting without compressing. Joints shall be troweled smooth and be struck with a jointing tool to give a slightly convex joint after the mortar has taken its initial set.

- C. All surfaces of walls shall be smooth and regular.
- D. At the close of each day's work on masonry walls a layer of sisal kraft paper, or an approved equal, shall be placed over the top of, and extending down the side of the walls to prevent the entrance of moisture. The paper shall be sufficiently weighted down to insure its remaining in place.

3.2 FACES CLEANED

- A. The inside faces of all masonry walls and other exposed parts shall have all the surplus mortar scraped off, shall be washed clean (with diluted muriatic acid, where required), immediately after the centers have been struck, and shall be pointed and left in a neat condition.

3.3 UNFINISHED WORK

- A. All unfinished work shall be raked back or toothed, as directed by the Commissioner, and, before new work is jointed to it, the faces of the brick in the old work shall be scraped entirely clean, scrubbed with a stiff brush and shall be well moistened.

3.4 ANCHORS

- A. Masonry walls shall be anchored and tied as indicated on contract drawings. All anchors and ties shall be galvanized steel.
- B. Anchors shall be securely fastened with expansion bolts set in existing masonry walls or by welding to columns as indicated. Holes in masonry shall be drilled with carbide tipped masonry drilled. Anchors provided in new concrete walls shall have dovetail ends inserted into trapezoidal cross-section galvanized steel channels which are embedded in the concrete. Anchors shall be spaced as required by the contract drawings.
- C. Masonry walls, where indicated on the contract drawings, shall be reinforced with continuous welded steel wire reinforcing frame. Reinforcing frame shall be provided in every horizontal course, or as otherwise indicated on the contract drawings. Reinforcing shall be wide enough to extend within one inch of the exterior and interior faces of the wall.

3.5 CAULKING

- A. Caulking shall be provided where indicated on contract drawings or as directed by the Architect and shall consist of an approved polysulfide permanent elastic type



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caulking compound of a color as determined by the Engineer.

- B. Where joints to be caulked are more than one inch deep, neoprene rope shall be placed in the joint to serve as a backing before the caulking is applied.

END OF SECTION



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SECTION 05 30 00

METAL DECKING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project.
1. The Contract Drawings.
 2. The Specifications.
 3. The General Conditions.
 4. The Addendum, and
 5. The Contract City of New York Standard Construction Contract.

1.2 DESCRIPTION

- A. The General and Supplementary Conditions accompanying these Specifications are hereby made a part of the requirements for the work under this Division of the Specification.

1.3 SCOPE OF WORK

- A. All materials, labor, equipment and services necessary to furnish, deliver, and install all work for this section shall be provided as shown on the drawings, as specified, and as required by job conditions, including but not limited to the following:
1. All Steel Framed Areas: Composite steel decking (permanent formwork) as required for concrete arch construction, including all steel stud shear connectors, closures, deck support angles at columns, reinforcing as hereinafter specified and all accessories as may be required for a complete and properly erected installation. Decking shall be furnished and installed so as to require no shoring from below.
 2. Welding: Including all welding required to properly fabricate and erect the steel decking.
 3. Cutting of Openings: Steel decking (permanent formwork) shall be cut by the Contractor as required to fit pre-determined holes and structural steel framed openings which are located and dimensioned on the structural, architectural, mechanical and electrical drawings.
 - a. Other than predetermined holes, all holes required by other



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trades shall be provided by the trades requiring the holes (other than predetermined holes). Cutting shall be performed as hereinafter specified.

- b. Shop and field cutting of steel decking (permanent formwork) as required to provide sufficient clearance for brackets and the work of other trades and all coping and welding of such members shall be included under the Contract.
- 4. Reinforcing for Openings and Holes: The reinforcing required for all openings and holes passing through the steel decking shall be furnished and installed under the Contract regardless of by whom the holes have been cut.
- 5. Accessory Items:
 - a. Continuous edge closures, closure plates, end closures, flashing and the like, as required to properly prepare the decking to receive the concrete, and the welding of all such work, as required.
 - b. Filler plates as may be required to close gaps between decking and structural concrete.
- 6. Hoisting of all materials required to be furnished and installed under the Contract.
- 7. Painting: All touchup painting required for weld areas and damaged surfaces of steel decking and accessory items shall be performed under the Contract.
- 8. Hanger tabs shall be furnished in place to receive suspended ceiling construction.
- 9. Safety Requirements: The Contractor shall be held responsible for compliance with the safety requirements of all city, state and federal agencies having jurisdiction, including the Occupational Safety and Health Administration.

1.4 RELATED WORK DESCRIBED IN OTHER SECTIONS

- A. Concrete Work - Section 033000.
- B. Spray-On Fireproofing - Section 072500.

1.5 QUALITY ASSURANCE

- A. Structural adequacy of deck sections shall be established in accordance with the methods set forth in the latest edition of the AISI Specifications for the



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Design of Cold Formed Steel Structural Members. The "moment" and deflection coefficient used shall be in accordance with the Steel Deck Institute's recommendations. Metal decking shall sustain all dead loads plus live loads.

- B. Certification of Welders: All welding shall be performed by competent experienced welding mechanics. Furnish certification stating that all welders employed on the work have passed qualification tests using procedures specified in the American Welding Society's Standard B3.0, Part II, current edition, and that such welders have been performing satisfactory welding of the required type within the three month period immediately preceding this job.
 - 1. A certification shall be submitted for each welding mechanic stating date of examination, results of testing, name of welder, and name and title of person conducting the examination.
 - 2. All welders shall be licensed by the State of New York
- C. Standards: All welding shall be performed in accordance with the applicable sections of the American Welding Society's Standard D1.0 for Welding In Building Construction.
- D. U.L. Approval: All welding shall be performed in strict accordance with the Underwriter's Laboratories' approvals in all cases, with no interchangeability or equivalent materials authorized.

1.6 SUBMITTALS

- A. Drawings: Based on design drawings, the Contractor shall prepare fabrication and erection drawings of all steel deck work. In addition, shop drawings shall be prepared and submitted to the Commissioner for review.
- B. Shop drawings shall be submitted, sufficiently in advance of the start of the work to allow time for examination and review. No fabrication shall be started prior to review of the drawings.
 - 1. Modification of details and all deviations from the design drawings, and the reasons therefore, shall be submitted for review with the shop drawings. Each modification or deviation shall be brought to the Commissioner's attention.
 - 2. Responsibility for all errors in detailing, fabrication and fitting of the steel decking shall be the Contractor's. Care shall be taken to maintain all architectural clearances.
 - 3. Index sheets shall be submitted with all deck details at time of submission. Where field welding is required, details shall be submitted at same time as corresponding shop drawings.



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- C. Mill Reports: The Contractor shall submit mill reports (certified) covering the physical properties and other pertinent information of all steel decking required under the Contract.

1.7 DELIVERY AND STORAGE

- A. All material shall be delivered to the construction site free from warpage, rust, dirt and shall be stored under protective covers on dunnage.

PART 2 - PRODUCTS

2.1 STEEL DECKING

- A. Steel deck panels shall be on plans and shall be galvanized and formed from steel conforming to ASTM A-653 (current edition) Grade C.
- B. Shop Welding of Steel Decking: When two (2) or more units are assembled by welding to form one unit, and the properties of that unit have been calculated in accordance with the AISC Specifications, the welds integrating the sheets into the unit shall be sufficient to develop the full horizontal shear at the plane where the sheets are jointed. The design strength per weld shall be in accordance with the aforementioned specifications.
- C. Spot welds shall be made using resistance spot-welders with electronic timers and heat controls, with uniformly applied pressure, and incorporating slope and temper controls to properly anneal the welds.

2.2 CLOSURES AND FLASHING

- A. The Contractor shall furnish and weld in place all sheet metal closures and fillers as required to close between floor units and columns, beams and girders, ends of runs, and in all other locations where shown and noted on the Structural and Architectural Drawings. Include metal flashing wherever shown. In addition include closures, fillers and flashing in all locations as required for proper installation whether or not indicated on the Drawings.
- B. Gauges: Except as otherwise indicated on the structural drawings, closures and fillers shall be not less than No. 18 gauge in thickness; flashings not less than No. 12 gauge.
- C. Deck support steel required to be furnished and installed under the Contract shall conform to the requirements of ASTM A36, current edition. Sizes of steel angles shall be in accordance with the details at columns appearing on the Structural Drawings

PART 3 - EXECUTION

3.1 SEQUENCE OF ERECTION



- A. **Manufacturer's Standard:** All steel decking shall be erected in accordance with the manufacturer's standard methods. Steel deck shall be placed on the supporting steel frame work and adjusted to final position before being permanently fastened. Each unit shall be brought to proper bearing on the supporting beams. If the supporting beams are not in proper alignment, or at proper level, the Contractor shall bring the matter (in writing) to the attention of the Commissioner for corrective action, and shall see that the correction is made before finally placing steel deck units.
- B. **Erection:** Panels shall be placed with edges up and flutes at right angles to structural steel supports. End laps shall always occur over supporting members. Minimum end lap shall be 2". Panels shall be lapped not less than 1/2" flute at side laps and welded at 3'- 0" on center. Panels shall be attached to top flange of steel beam supports by plug welding.
- C. **Welding:** Unless otherwise noted on the structural drawings, end laps shall be fastened using a weld washer at each side lap plus one intermediate weld (three welds per sheet). At intermediate supports weld sheets at side laps at each such support.
- D. **Alignment and Span:** The floor unit shall be placed in straight alignment for the entire length of the run of the peaks and valleys.
- E. **Installation of steel decking** shall closely follow the erection of the structural steel framing.
- F. **Closures** shall be fastened in place by tack welding not more than four feet on center for end closures and not more than three feet on center for side closures.
- G. **Pour stops and closures** along the perimeter of the building, around stairwells and around elevator shafts shall be located from actual survey lines and shall not be located via measurement from the perimeter beam locations.
- H. **Column closures** shall be cut and placed to suit the job conditions.
- I. **After panels** have been placed and aligned, they shall be immediately welded to the supporting steel.

3.2 HOLES AND OPENINGS

- A. **Openings:** Steel decking shall be cut by the Contractor to fit all structurally framed openings as specified under the "Scope."
- B. **Definitions for Openings:** Openings shall be defined as the apertures through the steel decking such as openings for stairs, shafts, and the like, the framing of which will be furnished and installed under the contract, as indicated on the Drawings. Such structural steel framing shall provide adequate support with a minimum bearing of three inches, unless otherwise shown.



- C. Holes: Steel decking shall be cut by the respective trades as required to pass their work from floor to floor.
- D. Definition of Holes: Holes shall be defined as any aperture cut through the steel flooring in unframed areas to accommodate sleeves for pipes, ducts, conduits and the like.
- E. Reinforcing: All holes and openings cut through steel decking shall be reinforced under the Contract as previously specified under the "Scope", except that holes 6" or less in diameter, and holes in which the distance cut across a flute is 6" or less, need not be reinforced, provided adjacent holes are not closer than 2'-6" on center. Required reinforcing shall be U.S.S. No. 14 gauge sheet steel and 4", 5.4 lbs. steel channels respectively as shown and noted on the Structural Drawings. All welds shall be a minimum of 3/4" in length and spaced not more than 8" on center.
- F. In all locations where support of the floor units has not been provided by the steel framing, it shall be the Contractor's responsibility to furnish and install sufficient reinforcement and support the decking. Such support and reinforcing shall meet the Commissioner's approval.

3.3 FIELD QUALITY CONTROL

- A. Inspection of steel decking shall include the following:
 - 1. Verification that all steel decking is erected in accordance with approved drawings, Contract Documents and Code requirements.
 - 2. All field welding of metal deck to steel supporting members shall be inspected by visual means to ascertain that all welds conform with drawings and with the applicable code requirements.
- B. Inspection and testing of studs shall be as per AWS D1.1 and applicable codes.
 - 1. A minimum of five shear connectors shall be welded to a test plate at the start of each production period in order to determine proper generator, control unit and left settings. These studs shall be capable of being bent 45 degrees from vertical without weld failure.
 - 2. If, after permanent welding, visual inspection of studs reveals that a sound weld and/or 360 degree fillet has not been obtained for a particular stud, such shall be struck with a five-pound hammer and bent approximately 15 degrees off the perpendicular to the beam. Studs meeting this test without weld failure shall be considered acceptable and shall be left in such position. Studs failing under this test shall be removed and replaced.



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3. During the welding operations shear connector studs shall be continuously tested. A minimum of two studs on each structural member shall be tested, with tests being made at 1/3 points of the span. If a failure occurs then every shear connector stud on the structural steel member upon which failure occurred shall be tested. Studs which have failed shall not be reused.

- C. Testing and inspection of welding will be supervised and paid for by the Commissioner.

END OF SECTION



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SECTION 05 70 00

DECORATIVE METAL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project:
1. The Contract Drawings,
 2. The Specifications,
 3. The General Conditions,
 4. The Addendum, and
 5. The Contract City of New York Standard Construction Contract.

1.2 SUMMARY

- A. Section Includes:
1. Wire mesh panels.

1.3 COORDINATION

- A. Coordinate installation of anchorages for decorative metal items. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.

1.4 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.

1.5 ACTION SUBMITTALS

- A. Product Data: For each type of product, including finishing materials.
- B. Shop Drawings: Show fabrication and installation details for decorative metal.
1. Include plans, elevations, component details, and attachment details.
 2. Indicate materials and profiles of each decorative metal member, fittings, joinery, finishes, fasteners, anchorages, and accessory items.
- C. Patterns, Models, or Plaster Castings: Made from proposed patterns for each design of custom casting required.



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- D. Samples for Initial Selection: For products involving selection of color, texture, or design including mechanical finishes.
- E. Samples for Verification: For each type of exposed finish.
 - 1. Sections of linear shapes.
 - 2. Full-size Samples of castings and forgings.
 - a. For custom castings, submit finished Samples showing ability to reproduce detail, cast-metal color, and quality of finish.
 - 3. Samples of welded and brazed joints showing quality of workmanship and color matching of materials.

1.6 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For fabricator.
- B. Welding certificates.

1.7 QUALITY ASSURANCE

- A. Fabricator Qualifications: A firm experienced in producing decorative metal similar to that indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- B. Installer Qualifications: Fabricator of products.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Store decorative metal in a well-ventilated area, away from uncured concrete and masonry, and protected from weather, moisture, soiling, abrasion, extreme temperatures, and humidity.
- B. Deliver and store cast-metal products in wooden crates surrounded by enough packing material to ensure that products are not cracked or otherwise damaged.

1.9 FIELD CONDITIONS

- A. Field Measurements: Verify actual locations of walls and other construction contiguous with decorative metal by field measurements before fabrication and indicate measurements on Shop Drawings.



PART 2 - PRODUCTS

2.1 DECORATIVE METAL FABRICATORS

- A. Fabricators: Subject to compliance with requirements, fabricators offering decorative metal work that may be incorporated into the Work include, but are not limited to, the following:
1. Cambridge Architectural Metals;
 2. WS Tyler;
 3. Banker Wire;
 4. Or approved equal.

2.2 METALS, GENERAL

- A. Metal Surfaces, General: Use materials with smooth, flat surfaces unless otherwise indicated. Use materials without seam marks, roller marks, rolled trade names, stains, discolorations, or blemishes.

2.3 BRASS

- A. Extruded Shapes: ASTM B 249/B 249M, Alloy UNS C36000 (free-cutting brass).
- B. Seamless Tube: ASTM B 135 (ASTM B 135M), Alloy UNS C26000 (cartridge brass, 70 percent copper).
- C. Castings: ASTM B 584, Alloy UNS C85200 (high-copper yellow brass).
- D. Plate, Sheet, Strip, and Bars: ASTM B 36/B 36M, Alloy UNS C26000 (cartridge brass, 70 percent copper).

2.4 FASTENERS

- A. Fastener Materials: Unless otherwise indicated, provide the following:
1. Copper-Alloy (Brass) Items: Silicon bronze (Alloy 651 or Alloy 655) fasteners where concealed, brass (Alloy 260 or 360) fasteners where exposed.
 2. Dissimilar Metals: Type 304 stainless-steel fasteners.
- B. Fasteners for Anchoring to Other Construction: Unless otherwise indicated, select fasteners of type, grade, and class required to produce connections suitable for anchoring indicated items to other types of construction indicated.
- C. Provide concealed fasteners for interconnecting components and for attaching decorative metal items to other work unless otherwise indicated.
1. Provide tamper-resistant flat-head machine screws for exposed fasteners unless otherwise indicated.



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- D. Post-Installed Anchors: Fastener systems with an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC193.

1. Material for Interior Locations: Carbon-steel components zinc plated to comply with ASTM B 633 or ASTM F 1941 (ASTM F 1941M), Class Fe/Zn 5 unless otherwise indicated.

2.5 MISCELLANEOUS MATERIALS

- A. Brazing Rods: For copper alloys, provide type and alloy as recommended by producer of metal to be brazed and as required for color match, strength, and compatibility in fabricated items.
- B. Lacquer for Copper Alloys: Clear, acrylic lacquer specially developed for coating copper-alloy products.

2.6 FABRICATION, GENERAL

- A. Assemble items in the shop to greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling limitations. Clearly mark units for reassembly and coordinated installation. Use connections that maintain structural value of joined pieces.
- B. Make up wire-rope assemblies in the shop to field-measured dimensions with fittings machine swaged. Minimize amount of turnbuckle take-up used for dimensional adjustment so maximum amount is available for tensioning wire ropes. Tag wire-rope assemblies and fittings to identify installation locations and orientations for coordinated installation.
- C. Form decorative metal to required shapes and sizes, true to line and level with true curves and accurate angles and surfaces. Finish exposed surfaces to smooth, sharp, well-defined lines and arris.
- D. Form bent-metal corners to smallest radius possible without causing grain separation or otherwise impairing the Work.
- E. Form simple and compound curves in bars, pipe, tubing, and extruded shapes by bending members in jigs to produce uniform curvature for each configuration required; maintain cross section of member throughout entire bend without buckling, twisting, cracking, or otherwise deforming exposed surfaces.
- F. Cut, drill, and punch metals cleanly and accurately. Remove burrs and ease edges to a radius of approximately 1/32 inch (1 mm) unless otherwise indicated. Remove sharp or rough areas on exposed surfaces.
- G. Mill joints to a tight, hairline fit. Cope or miter corner joints.
- H. Provide necessary rebates, lugs, and brackets to assemble units and to attach to other work. Cut, reinforce, drill, and tap as needed to receive finish hardware, screws, and similar items unless otherwise indicated.



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- I. Comply with AWS for recommended practices in shop brazing. Braze behind finished surfaces without distorting or discoloring exposed side. Clean exposed brazed joints of flux, and dress exposed and contact surfaces.
 - 1. Where brazing cannot be concealed behind finished surfaces, finish joints to comply with NOMMA's "Voluntary Joint Finish Standards" for Type 1 Welds: no evidence of a welded joint.
- J. Provide castings that are sound and free of warp, cracks, blowholes, or other defects that impair strength or appearance. Grind, wire brush, sandblast, and buff castings to remove seams, gate marks, casting flash, and other casting marks.

2.7 WIRE MESH PANELS

- A. Fabricate wire mesh panels from brass wire or plate of thickness, size, and pattern indicated. Roll, press, and grind metal wire to flatten and to remove burrs and deformations.
 - 1. Drawings indicate wire mesh patterns required and are based on products of one manufacturer. Wire mesh patterns produced by other manufacturers may be considered, provided deviations are minor and do not change design concept as judged solely by the Commissioner.
- B. Drill and countersink grilles for mounting screws at 2 inches (50 mm) from corners and at 10 inches (250 mm) or less o.c. Provide units with oval-head self-tapping machine screws.
- C. Fabricate frames from extruded brass of profiles and to sizes and shapes indicated. Miter frame members at corners and connect with concealed splice plates brazed to back of frames.
 - 1. Secure mesh in frames with 0.5-inch- (12-mm-) long brazing along perimeter of grilles at 4 inches (100 mm) o.c.
 - 2. Drawings indicate frame profiles required and are based on products of one manufacturer. Similar frame profiles produced by other manufacturers may be considered, provided deviations are minor and do not change design concept as judged solely by the Commissioner.
- D. Drill and countersink frames for mounting screws at 4 inches (100 mm) from corners and at 16 inches (400 mm) or less o.c. Provide units with oval-head self-tapping machine screws.

2.8 FINISHES, GENERAL

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
- B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

2.9 COPPER-ALLOY FINISHES

- A. Finish designations for copper alloys comply with the system established for designating copper-alloy finish systems defined in NAAMM's "Metal Finishes Manual for Architectural and Metal Products."
- B. Medium-Satin Finish, Lacquered: M32-O6x (Mechanical Finish: directionally textured, medium satin; Coating: clear, organic, air dried, as specified below):
 - 1. Clear, Organic Coating: Lacquer specified for copper alloys; applied by air spray in two coats per manufacturer's written instructions, with interim drying, to a total thickness of 1 mil (0.025 mm).

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of decorative metal.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION, GENERAL

- A. Provide anchorage devices and fasteners where needed to secure decorative metal to in-place construction.
- B. Perform cutting, drilling, and fitting required to install decorative metal. Set products accurately in location, alignment, and elevation, measured from established lines and levels.
- C. Fit exposed connections accurately together to form tight, hairline joints or, where indicated, uniform reveals and spaces for sealants and joint fillers. Where cutting, welding, and grinding are required for proper shop fitting and jointing of decorative metal, restore finishes to eliminate evidence of such corrective work.
- D. Do not cut or abrade finishes that cannot be completely restored in the field. Return items with such finishes to the shop for required alterations, followed by complete refinishing, or provide new units as required.
- E. Install concealed gaskets, joint fillers, insulation, and flashings as work progresses.
- F. Restore protective coverings that have been damaged during shipment or installation. Remove protective coverings only when there is no possibility of damage from other work yet to be performed at same location.
 - 1. Retain protective coverings intact; remove coverings simultaneously from similarly finished items to preclude nonuniform oxidation and discoloration.



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- G. Field Brazing: Comply with requirements for brazing and for finishing brazed connections in "Fabrication, General" Article. Braze connections that are not to be left as exposed joints but cannot be shop brazed because of shipping size limitations.
- H. Control of Corrosion: Prevent galvanic action and other forms of corrosion by insulating metals and other materials from direct contact with incompatible materials.

3.3 INSTALLING WIRE MESH PANELS

- A. Mount wire mesh panels at heights and in positions indicated.
 - 1. Secure to framing and blocking with specified fasteners.

3.4 INSTALLING COMBINATION HALL PUSH-BUTTON STATIONS

- A. Coordinate installation of combination hall push-button stations with installation of related elevator signal equipment components. Secure units in place with faceplate overlapping surrounding wall finish and drawn into contact with surrounding wall finish at entire perimeter of faceplate.

3.5 CLEANING AND PROTECTION

- A. Unless otherwise indicated, clean metals by washing thoroughly with clean water and soap, rinsing with clean water, and drying with soft cloths.
- B. Clean copper alloys according to metal finisher's written instructions in a manner that leaves an undamaged and uniform finish matching approved Sample.
- C. Protect finishes of decorative metal from damage during construction period with temporary protective coverings approved by decorative metal fabricator. Remove protective covering at time of Substantial Completion.
- D. Restore finishes damaged during installation and construction period so no evidence remains of correction work. Return items that cannot be refinished in the field to the shop; make required alterations and refinish entire unit, or provide new units.

END OF SECTION 05 70 00



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SECTION 07 84 13

PENETRATION FIRESTOPPING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project:
1. The Contract Drawings,
 2. The Specifications,
 3. The General Conditions,
 4. The Addendum, and
 5. The Contract City of New York Standard Construction Contract.

1.2 SUMMARY

- A. Section Includes:
1. Penetrations in fire-resistance-rated walls and partitions.
 2. Penetrations in horizontal fire-rated assemblies.
 3. Penetrations in smoke barriers.
 4. Coordination and verification of requirements for all existing penetrations.
- B. Related Sections:
1. General Conditions Section "Quality Requirements."

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Product Schedule: For each penetration firestopping system. Include location and design designation of qualified testing and inspecting agency.
1. Where Project conditions require modification to a qualified testing and inspecting agency's illustration for a particular penetration firestopping condition, submit to Commissioner for review illustration, with modifications marked, approved by penetration firestopping manufacturer's fire-protection engineer as an engineering judgment or equivalent fire-resistance-rated assembly.
- C. Qualification Data: For qualified Installer.
- D. Installer Certificates: From Installer indicating penetration firestopping has been installed in compliance with requirements and manufacturer's written recommendations.

- E. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for penetration firestopping.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: A firm that has been approved by FM Global according to FM Global 4991, "Approval of Firestop Contractors," or been evaluated by UL and found to comply with its "Qualified Firestop Contractor Program Requirements."
- B. Fire-Test-Response Characteristics: Penetration firestopping shall comply with the following requirements:
 - 1. Penetration firestopping tests are performed by a qualified testing agency acceptable to authorities having jurisdiction.
 - 2. Penetration firestopping is identical to those tested per testing standard referenced in "Penetration Firestopping" Article. Provide rated systems complying with the following requirements:
 - a. Penetration firestopping products bear classification marking of qualified testing and inspecting agency.
 - b. Classification markings on penetration firestopping correspond to designations listed by the following:
 - 1) UL in its "Fire Resistance Directory."
 - 2) FM Global in its "Building Materials Approval Guide."
- C. Preinstallation Conference: Conduct conference at Project site.
 - 1. Participants: Ownership, DDC Representative[s], DDC Fire Protection Engineer, Manufacturer's Representative.

1.5 PROJECT CONDITIONS

- A. Environmental Limitations: Do not install penetration firestopping when ambient or substrate temperatures are outside limits permitted by penetration firestopping manufacturers or when substrates are wet because of rain, frost, condensation, or other causes.
- B. Install and cure penetration firestopping per manufacturer's written instructions using natural means of ventilations or, where this is inadequate, forced-air circulation.

1.6 COORDINATION

- A. Coordinate construction of openings and penetrating items to ensure that penetration firestopping is installed according to specified requirements.
- B. Coordinate sizing of sleeves, openings, core-drilled holes, or cut openings to accommodate penetration firestopping.



- C. Notify City of New York's testing agency at least seven days in advance of penetration firestopping installations; confirm dates and times on day preceding each series of installations.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, [available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following]:
1. A/D Fire Protection Systems Inc.
 2. Grace Construction Products.
 3. Hilti, Inc.
 4. Johns Manville.
 5. Nelson Firestop Products.
 6. NUCO Inc.
 7. Passive Fire Protection Partners.
 8. RectorSeal Corporation.
 9. Specified Technologies Inc.
 10. 3M Fire Protection Products.
 11. Tremco, Inc.; Tremco Fire Protection Systems Group.
 12. USG Corporation.

2.2 PENETRATION FIRESTOPPING

- A. Provide penetration firestopping that is produced and installed to resist spread of fire according to requirements indicated, resist passage of smoke and other gases, and maintain original fire-resistance rating of construction penetrated. Penetration firestopping systems shall be compatible with one another, with the substrates forming openings, and with penetrating items if any.
- B. Penetrations in Fire-Resistance-Rated Walls: Provide penetration firestopping with ratings determined per ASTM E 814 or UL 1479, based on testing at a positive pressure differential of 2.49 Pa (0.01-inch wg).
1. Fire-resistance-rated walls include fire walls, fire-barrier walls, smoke-barrier walls and fire partitions of new and existing construction.
 2. F-Rating: Not less than the fire-resistance rating of constructions penetrated.
- C. Penetrations in Horizontal Assemblies: Provide penetration firestopping with ratings determined per ASTM E 814 or UL 1479, based on testing at a positive pressure differential of 2.49 Pa (0.01-inch wg).
1. Horizontal assemblies include floor/ceiling assemblies F-rating in first subparagraph below indicates resistance to flame spread.
 2. F-Rating: At least 1 hour, but not less than the fire-resistance rating of constructions penetrated.
 3. T-Rating: At least 1 hour, but not less than the fire-resistance rating of constructions penetrated except for floor penetrations within the cavity of a wall.



- D. Penetrations in Smoke Barriers: Provide penetration firestopping with ratings determined per UL 1479.
- E. Exposed Penetration Firestopping: Provide products with flame-spread and smoke-developed indexes of less than 25 and 450, respectively, as determined per ASTM E 84.
- F. VOC Content: Provide penetration firestopping that complies with the following limits for VOC content when calculated according to South Coast Air Quality Management District (SCAQMD) Rule #1168:
 - 1. Architectural Sealants: 250 g/L.
 - 2. Sealant Primers for Nonporous Substrates: 250 g/L.
 - 3. Sealant Primers for Porous Substrates: 775 g/L.
- G. Accessories: Provide components for each penetration firestopping system that are needed to install fill materials and to maintain ratings required. Use only those components specified by penetration firestopping manufacturer and approved by qualified testing and inspecting agency for firestopping indicated.
 - 1. Permanent forming/damming/backing materials, including the following:
 - a. Slag-wool-fiber or rock-wool-fiber insulation.
 - b. Sealants used in combination with other forming/damming/backing materials to prevent leakage of fill materials in liquid state.
 - c. Fire-rated form board.
 - d. Fillers for sealants.
 - 2. Temporary forming materials.
 - 3. Substrate primers.
 - 4. Collars.
 - 5. Steel sleeves.

2.3 FILL MATERIALS

- A. Firestop Devices: Factory-assembled collars formed from galvanized steel and lined with intumescent material sized to fit specific diameter of penetrant.
- B. Intumescent Putties: Nonhardening dielectric, water-resistant putties containing no solvents, inorganic fibers, or silicone compounds.
- C. Mortars: Prepackaged dry mixes consisting of a blend of inorganic binders, hydraulic cement, fillers, and lightweight aggregate formulated for mixing with water at Project site to form a nonshrinking, homogeneous mortar.
- D. Pillows/Bags: Reusable heat-expanding pillows/bags consisting of glass-fiber cloth cases filled with a combination of mineral-fiber, water-insoluble expansion agents, and fire-retardant additives. Where exposed, cover openings with steel-reinforcing wire mesh to protect pillows/bags from being easily removed.
- E. Silicone Foams: Multi-component, silicone-based liquid elastomers that, when mixed, expand and cure in place to produce a flexible, nonshrinking foam.



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F. Silicone Sealants: Single-component, silicone-based, neutral-curing elastomeric sealants of grade indicated below:

1. Grade: Pourable (self-leveling) formulation for openings in floors and other horizontal surfaces, and nonsag formulation for openings in vertical and sloped surfaces, unless indicated firestopping limits use of nonsag grade for both opening conditions.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine existing and new substrates and conditions, with Installer present, for compliance with requirements for opening configurations, penetrating items, substrates, and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Surface Cleaning: Clean out openings immediately before installing penetration firestopping to comply with manufacturer's written instructions and with the following requirements:
 1. Remove from surfaces of opening substrates and from penetrating items foreign materials that could interfere with adhesion of penetration firestopping.
 2. Clean opening substrates and penetrating items to produce clean, sound surfaces capable of developing optimum bond with penetration firestopping. Remove loose particles remaining from cleaning operation.
 3. Remove laitance and form-release agents from concrete.
- B. Priming: Prime substrates where recommended in writing by manufacturer using that manufacturer's recommended products and methods. Confine primers to areas of bond; do not allow spillage and migration onto exposed surfaces.
- C. Masking Tape: Use masking tape to prevent penetration firestopping from contacting adjoining surfaces that will remain exposed on completion of the Work and that would otherwise be permanently stained or damaged by such contact or by cleaning methods used to remove stains. Remove tape as soon as possible without disturbing firestopping's seal with substrates.

3.3 INSTALLATION

- A. General: Install penetration firestopping to comply with manufacturer's written installation instructions and published drawings for products and applications indicated.
- B. Install forming materials and other accessories of types required to support fill materials during their application and in the position needed to produce cross-sectional shapes and depths required to achieve fire ratings indicated.



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1. After installing fill materials and allowing them to fully cure, remove combustible forming materials and other accessories not indicated as permanent components of firestopping.
- C. Install fill materials for firestopping by proven techniques to produce the following results:
 1. Fill voids and cavities formed by openings, forming materials, accessories, and penetrating items as required to achieve fire-resistance ratings indicated.
 2. Apply materials so they contact and adhere to substrates formed by openings and penetrating items.
 3. For fill materials that will remain exposed after completing the Work, finish to produce smooth, uniform surfaces that are flush with adjoining finishes.

3.4 IDENTIFICATION

- A. Identify penetration firestopping with preprinted metal or plastic labels. Attach labels permanently to surfaces adjacent to and within 150 mm (6 inches) of firestopping edge so labels will be visible to anyone seeking to remove penetrating items or firestopping. Use mechanical fasteners or self-adhering-type labels with adhesives capable of permanently bonding labels to surfaces on which labels are placed. Include the following information on labels:
 1. The words "Warning - Penetration Firestopping - Do Not Disturb. Notify Building Management of Any Damage."
 2. Contractor's name, address, and phone number.
 3. Designation of applicable testing and inspecting agency.
 4. Date of installation.
 5. Manufacturer's name.
 6. Installer's name.

3.5 FIELD QUALITY CONTROL

- A. City of NY will engage a qualified testing agency to perform Special Inspection including tests and inspections.
- B. Where deficiencies are found or penetration firestopping is damaged or removed because of testing, repair or replace penetration firestopping to comply with requirements.
- C. Proceed with enclosing penetration firestopping with other construction only after inspection reports are issued and installations comply with requirements.

3.6 CLEANING AND PROTECTION

- A. Clean off excess fill materials adjacent to openings as the Work progresses by methods and with cleaning materials that are approved in writing by penetration firestopping manufacturers and that do not damage materials in which openings occur.
- B. Provide final protection and maintain conditions during and after installation that ensure that penetration firestopping is without damage or deterioration at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, immediately cut out and remove



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damaged or deteriorated penetration firestopping and install new materials to produce systems complying with specified requirements.

3.7 PENETRATION FIRESTOPPING SCHEDULE

- A. Contractor shall prepare Firestopping Schedule per identified conditions and select from the following Underwriters Laboratories (UL) tested and fire-rated design assemblies for each type of penetration and penetrant.
- B. Where UL-classified systems are indicated, they refer to system numbers in UL's "Fire Resistance Directory" under product Category XHEZ.
- C. Where FM Global-approved systems are indicated, they refer to design numbers listed in FM Global's "Building Materials Approval Guide" under "Wall and Floor Penetration Fire Stops."
- D. Firestopping for Metallic Pipes, Conduit, or Tubing – Through Penetrants (FS-1):
 - 1. UL-Classified Systems: C-AJ-1081
 - 2. F-Rating: 2 hours
- E. Firestopping for Groupings of Penetrants (FS-2):
 - 1. UL-Classified Systems: C-AJ-1088
 - 2. F-Rating: 2 hours
- F. Firestopping for Metallic Pipes, Conduit, or Tubing- Metallic Sleeve (FS-3):
 - 1. UL-Classified Systems: C-AJ-1067
 - 2. F-Rating: 2 hours
- G. Firestopping for Non- Metallic Pipes, Conduit, or Tubing (FS-4):
 - 1. UL-Classified Systems: C-AJ-2351
 - 2. F-Rating: 2 hours
- H. Firestopping for Insulated Pipes (FS-5):
 - 1. UL-Classified Systems: C-AJ-5156
 - 2. F-Rating: 2 hours
- I. Firestopping for Miscellaneous Mechanical Penetrants (FS-6)
 - 1. UL-Classified Systems: C-AJ-7111
 - 2. F-Rating: 2 hours

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SECTION 07 92 00

JOINT SEALANTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project:
1. The Contract Drawings,
 2. The Specifications,
 3. The General Conditions,
 4. The Addendum, and
 5. The Contract City of New York Standard Construction Contract.

1.2 SUMMARY

- A. Section Includes:
1. Urethane joint sealants.
 2. Latex joint sealants.
 3. Acoustical joint sealants.

1.3 PRECONSTRUCTION TESTING

- A. Preconstruction Compatibility and Adhesion Testing: Submit to joint-sealant manufacturers, for testing indicated below, samples of materials that will contact or affect joint sealants.
1. Use ASTM C 1087 to determine whether priming and other specific joint preparation techniques are required to obtain rapid, optimum adhesion of joint sealants to joint substrates.
 2. Submit not fewer than eight pieces of each kind of material, including joint substrates, shims, joint-sealant backings, secondary seals, and miscellaneous materials.
 3. Schedule sufficient time for testing and analyzing results to prevent delaying the Work.
 4. For materials failing tests, obtain joint-sealant manufacturer's written instructions for corrective measures including use of specially formulated primers.
 5. Testing will not be required if joint-sealant manufacturers submit joint preparation data that are based on previous testing, not older than 24 months, of sealant products for adhesion to, and compatibility with, joint substrates and other materials matching those submitted.

1.4 ACTION SUBMITTALS

- A. Product Data: For each joint-sealant product indicated.

- B. Samples for Initial Selection: Manufacturer's color charts consisting of strips of cured sealants showing the full range of colors available for each product exposed to view.
- C. Samples for Verification: For each kind and color of joint sealant required, provide Samples with joint sealants in 1/2-inch- (13-mm-) wide joints formed between two 6-inch- (150-mm-) long strips of material matching the appearance of exposed surfaces adjacent to joint sealants.
- D. Joint-Sealant Schedule: Include the following information:
 - 1. Joint-sealant application, joint location, and designation.
 - 2. Joint-sealant manufacturer and product name.
 - 3. Joint-sealant formulation.
 - 4. Joint-sealant color.

1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For qualified Installer and testing agency.
- B. Product Certificates: For each kind of joint sealant and accessory, from manufacturer.
- C. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, indicating that sealants comply with requirements.
- D. Preconstruction Compatibility and Adhesion Test Reports: From sealant manufacturer, indicating the following:
 - 1. Materials forming joint substrates and joint-sealant backings have been tested for compatibility and adhesion with joint sealants.
 - 2. Interpretation of test results and written recommendations for primers and substrate preparation needed for adhesion.
- E. Field-Adhesion Test Reports: For each sealant application tested.
- F. Warranties: Sample of special warranties.

1.6 QUALITY ASSURANCE

- A. Installer Qualifications: Properly trained by manufacture for installation of units required for this Project.
- B. Source Limitations: Obtain each kind of joint sealant from single source from single manufacturer.
- C. Product Testing: Test joint sealants using a qualified testing agency.
 - 1. Testing Agency Qualifications: An independent testing agency qualified according to ASTM C 1021 to conduct the testing indicated.
 - 2. Test according to SWRI's Sealant Validation Program for compliance with requirements specified by reference to ASTM C 920 for adhesion and cohesion under cyclic movement, adhesion-in-peel, and indentation hardness.

- D. Mockups: Install sealant in mockups of assemblies specified in other Sections that are indicated to receive joint sealants specified in this Section. Use materials and installation methods specified in this Section.

1.7 PROJECT CONDITIONS

- A. Do not proceed with installation of joint sealants under the following conditions:
1. When ambient and substrate temperature conditions are outside limits permitted by joint-sealant manufacturer.
 2. When joint substrates are wet.
 3. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.
 4. Where contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

1.8 WARRANTY

- A. Special Installer's Warranty: Manufacturer's standard form in which Installer agrees to repair or replace joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.
1. Warranty Period: Two years from date of Substantial Completion.
- B. Special Manufacturer's Warranty: Manufacturer's standard form in which joint-sealant manufacturer agrees to furnish joint sealants to repair or replace those that do not comply with performance and other requirements specified in this Section within specified warranty period.
1. Warranty Period: Two years from date of Substantial Completion.
- C. Special warranties specified in this article exclude deterioration or failure of joint sealants from the following:
1. Movement of the structure caused by structural settlement or errors attributable to design or construction resulting in stresses on the sealant exceeding sealant manufacturer's written specifications for sealant elongation and compression.
 2. Disintegration of joint substrates from natural causes exceeding design specifications.
 3. Mechanical damage caused by individuals, tools, or other outside agents.
 4. Changes in sealant appearance caused by accumulation of dirt or other atmospheric contaminants.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

- A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint-sealant manufacturer, based on testing and field experience.

- B. VOC Content of Interior Sealants: Sealants and sealant primers used inside the weatherproofing system shall comply with the following limits for VOC content when calculated according to South Coast Air Quality Management District (SCAQMD) Rule #1168:
1. Architectural Sealants: 250 g/L.
 2. Sealant Primers for Nonporous Substrates: 250 g/L.
 3. Sealant Primers for Porous Substrates: 775 g/L.
- C. Liquid-Applied Joint Sealants: Comply with ASTM C 920 and other requirements indicated for each liquid-applied joint sealant specified, including those referencing ASTM C 920 classifications for type, grade, class, and uses related to exposure and joint substrates.
1. Suitability for Immersion in Liquids. Where sealants are indicated for Use I for joints that will be continuously immersed in liquids, provide products that have undergone testing according to ASTM C 1247. Liquid used for testing sealants is deionized water, unless otherwise indicated.
- D. Stain-Test-Response Characteristics: Where sealants are specified to be nonstaining to porous substrates, provide products that have undergone testing according to ASTM C 1248 and have not stained porous joint substrates indicated for Project.
- E. Suitability for Contact with Food: Where sealants are indicated for joints that will come in repeated contact with food, provide products that comply with 21 CFR 177.2600.
- F. Colors of Exposed Joint Sealants: As selected by Commissioner from manufacturer's full range.

2.2 URETHANE JOINT SEALANTS

- A. Single-Component, Nonsag, Traffic-Grade, Urethane Joint Sealant: ASTM C 920, Type S, Grade NS, Class 25, for Use T.
1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. BASF Building Systems; Sonolastic NP1 Sonolastic Ultra.
 - b. Sika Corporation, Construction Products Division; Sikaflex - 1a.
 - c. Tremco Incorporated; Vulkem 116.
 - d. Approved equal.
- B. Single-Component, Pourable, Traffic-Grade, Urethane Joint Sealant: ASTM C 920, Type S, Grade P, Class 25, for Use T.
1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. BASF Building Systems; Sonolastic SL 1.
 - b. Bostik, Inc.; Chem-Calk 950.
 - c. May National Associates, Inc.; Bondaflex PUR 35 SL.
 - d. Pecora Corporation; Urexpan NR-201.
 - e. Polymeric Systems, Inc.; Flexiprene 952.



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- f. Schnee-Morehead, Inc.; Permthane SM7101.
 - g. Sika Corporation. Construction Products Division; Sikaflex - 1CSL.
 - h. Tremco Incorporated; Vulkem 45.
 - i. Approved equal.
- C. Immersible, Single-Component, Nonsag, Traffic-Grade, Urethane Joint Sealant: ASTM C 920, Type S, Grade NS, Class 25, for Uses T and I.
 - 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. BASF Building Systems; Sonolastic NP1.
 - b. Sika Corporation, Construction Products Division; Sikaflex - 1a.
 - c. Tremco Incorporated; Vulkem 116.
 - d. Approved equal.
- D. Immersible Multicomponent, Pourable, Traffic-Grade, Urethane Joint Sealant: ASTM C 920, Type M, Grade P, Class 25, for Use T and I.
 - 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Tremco Incorporated; Vulkem 245.
 - b. Approved Equal.

2.3 LATEX JOINT SEALANTS

- A. Latex Joint Sealant: Acrylic latex or siliconized acrylic latex, ASTM C 834, Type OP, Grade NF.
 - 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. BASF Building Systems; Sonolac.
 - b. Bostik, Inc.; Chem-Calk 600.
 - c. May National Associates, Inc.; Bondaflex 600 Bondaflex Sil-A 700.
 - d. Pecora Corporation; AC-20+.
 - e. Schnee-Morehead, Inc.; SM 8200.
 - f. Tremco Incorporated; Tremflex 834.
 - g. Approved equal.

2.4 ACOUSTICAL JOINT SEALANTS

- A. Acoustical Joint Sealant: Manufacturer's standard nonsag, paintable, nonstaining latex sealant complying with ASTM C 834. Product effectively reduces airborne sound transmission through perimeter joints and openings in building construction as demonstrated by testing representative assemblies according to ASTM E 90.
 - 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:



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- a. Pecora Corporation; AC-20 FTR AIS-919.
- b. USG Corporation; SHEETROCK Acoustical Sealant.
- c. Approved equal.

2.5 JOINT SEALANT BACKING

- A. General: Provide sealant backings of material that are nonstaining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.
- B. Cylindrical Sealant Backings: ASTM C 1330, Type C (closed-cell material with a surface skin) Type O (open-cell material) Type B (bicellular material with a surface skin) or any of the preceding types, as approved in writing by joint-sealant manufacturer for joint application indicated, and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.
- C. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces at back of joint. Provide self-adhesive tape where applicable.

2.6 MISCELLANEOUS MATERIALS

- A. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.
- B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials, free of oily residues or other substances capable of staining or harming joint substrates and adjacent nonporous surfaces in any way, and formulated to promote optimum adhesion of sealants to joint substrates.
- C. Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint-sealant performance.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION



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- A. **Surface Cleaning of Joints:** Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions and the following requirements:
1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.
 2. Clean porous joint substrate surfaces by brushing, grinding, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining after cleaning operations above by vacuuming or blowing out joints with oil-free compressed air. Porous joint substrates include the following:
 - a. Concrete.
 - b. Precast concrete.
 - c. Masonry.
 - d. Unglazed surfaces of ceramic tile.
 3. Remove laitance and form-release agents from concrete.
 4. Clean nonporous joint substrate surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants. Nonporous joint substrates include the following:
 - a. Metal.
 - b. Glass.
 - c. Porcelain enamel.
 - d. Glazed surfaces of ceramic tile.
- B. **Joint Priming:** Prime joint substrates where recommended by joint-sealant manufacturer or as indicated by preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.
- C. **Masking Tape:** Use masking tape where required to prevent contact of sealant or primer with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

3.3 INSTALLATION OF JOINT SEALANTS

- A. **General:** Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.
- B. **Sealant Installation Standard:** Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.
- C. **Install sealant backings of kind indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.**
1. Do not leave gaps between ends of sealant backings.



2. Do not stretch, twist, puncture, or tear sealant backings.
 3. Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials.
- D. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.
- E. Install sealants using proven techniques that comply with the following and at the same time backings are installed:
1. Place sealants so they directly contact and fully wet joint substrates.
 2. Completely fill recesses in each joint configuration.
 3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.
- F. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified in subparagraphs below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.
1. Remove excess sealant from surfaces adjacent to joints.
 2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
 3. Provide concave joint profile per Figure 8A in ASTM C 1193, unless otherwise indicated.
 4. Provide flush joint profile where indicated per Figure 8B in ASTM C 1193.
 5. Provide recessed joint configuration of recess depth and at locations indicated per Figure 8C in ASTM C 1193.
- a. Use masking tape to protect surfaces adjacent to recessed tooled joints.
- G. Acoustical Sealant Installation: At sound-rated assemblies and elsewhere as indicated, seal construction at perimeters, behind control joints, and at openings and penetrations with a continuous bead of acoustical sealant. Install acoustical sealant at both faces of partitions at perimeters and through penetrations. Comply with ASTM C 919 and with manufacturer's written recommendations.

3.4 FIELD QUALITY CONTROL

- A. Field-Adhesion Testing: Field test joint-sealant adhesion to joint substrates as follows:
1. Extent of Testing: Test completed and cured sealant joints as follows:
 - a. Perform 10 tests for the first 300 m (1000 feet) of joint length for each kind of sealant and joint substrate.
 - b. Perform 1 test for each 300 m (1000 feet) of joint length thereafter or 1 test per each floor per elevation.
 2. Test Method: Test joint sealants according to Method A, Field-Applied Sealant Joint Hand Pull Tab, in Appendix X1 in ASTM C 1193 or Method A, Tail Procedure, in ASTM C 1521.



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- a. For joints with dissimilar substrates, verify adhesion to each substrate separately; extend cut along one side, verifying adhesion to opposite side. Repeat procedure for opposite side.
3. Inspect tested joints and report on the following:
 - a. Whether sealants filled joint cavities and are free of voids.
 - b. Whether sealant dimensions and configurations comply with specified requirements.
 - c. Whether sealants in joints connected to pulled-out portion failed to adhere to joint substrates or tore cohesively. Include data on pull distance used to test each kind of product and joint substrate. Compare these results to determine if adhesion passes sealant manufacturer's field-adhesion hand-pull test criteria.
4. Record test results in a field-adhesion-test log. Include dates when sealants were installed, names of persons who installed sealants, test dates, test locations, whether joints were primed, adhesion results and percent elongations, sealant fill, sealant configuration, and sealant dimensions.
5. Repair sealants pulled from test area by applying new sealants following same procedures used originally to seal joints. Ensure that original sealant surfaces are clean and that new sealant contacts original sealant.
- B. Evaluation of Field-Adhesion Test Results: Sealants not evidencing adhesive failure from testing or noncompliance with other indicated requirements will be considered satisfactory. Remove sealants that fail to adhere to joint substrates during testing or to comply with other requirements. Retest failed applications until test results prove sealants comply with indicated requirements.

3.5 CLEANING

- A. Clean off excess sealant or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

3.6 PROTECTION

- A. Protect joint sealants during and after curing period from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealants immediately so installations with repaired areas are indistinguishable from original work.

3.7 JOINT-SEALANT SCHEDULE

- A. Joint-Sealant Application: Exterior joints in horizontal traffic surfaces subject to water immersion (JS-1).
 1. Joint Locations:



- a. Dead level or ponding exterior paving.
 2. Urethane Joint Sealant: Immersible, single component, nonsag, traffic grade Immersible, multicomponent, pourable, traffic grade.
 3. Joint-Sealant Color: As indicated by manufacturer's designations Match Commissioner's sample As selected by Commissioner from manufacturer's full range of colors
- B. Joint-Sealant Application: Exterior joints in vertical surfaces and horizontal nontraffic surfaces (JS-2).
1. Joint Locations:
 - a. Construction joints in cast-in-place concrete.
 - b. Construction joints in precast concrete
 - b. Perimeter joints between materials listed above and frames of doors.
 - c. Control and expansion joints in overhead surfaces.
 2. Silicone Joint Sealant: Single component, nonsag, neutral curing, Class 50.
 3. Joint-Sealant Color: As selected by Commissioner from manufacturer's full range of colors.
- C. Joint-Sealant Application: Interior joints in horizontal traffic surfaces (JS-3).
1. Joint Locations:
 - a. Isolation joints in cast-in-place concrete slabs.
 2. Urethane Joint Sealant: Single component, nonsag, traffic grade Single component, pourable, traffic grade.
 3. Joint-Sealant Color: As selected by Commissioner from manufacturer's full range of colors.
- D. Joint-Sealant Application: Interior joints in vertical surfaces and horizontal nontraffic surfaces (JS-4).
1. Joint Locations:
 - a. Perimeter joints of exterior openings where indicated.
 - b. Tile control and expansion joints.
 - c. Vertical joints on exposed surfaces of interior unit masonry walls and partitions.
 - d. Perimeter joints between interior wall surfaces and frames of interior doors windows.
 2. Joint Sealant: Latex Acrylic based.
 3. Joint-Sealant Color: As selected by Commissioner from manufacturer's full range of colors.
- E. Joint-Sealant Application: Mildew-resistant interior joints in vertical surfaces and horizontal nontraffic surfaces (JS-5).
1. Joint Sealant Location:



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- a. Joints between plumbing fixtures and adjoining walls, floors, and counters.
 - b. Tile control and expansion joints where indicated.
 2. Joint Sealant: Single component, nonsag, mildew resistant, acid curing.
 3. Joint-Sealant Color: As selected by Commissioner from manufacturer's full range of colors.
- F. Joint-Sealant Application: Interior acoustical joints in vertical surfaces and horizontal nontraffic surfaces (JS-6).
1. Joint Location:
 - a. Acoustical joints where indicated.
 2. Joint Sealant: Acoustical.
 3. Joint-Sealant Color: As selected by Commissioner from manufacturer's full range.

END OF SECTION 07 92 00



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SECTION 08 11 13

HOLLOW METAL DOORS AND FRAMES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project:
1. The Contract Drawings,
 2. The Specifications,
 3. The General Conditions,
 4. The Addendum, and
 5. The Contract City of New York Standard Construction Contract.

1.2 SUMMARY

- A. Section includes hollow-metal work.
- B. Related Requirements:
1. Section 087100 "Door Hardware" for door hardware for hollow-metal doors.

1.3 DEFINITIONS

- A. Minimum Thickness: Minimum thickness of base metal without coatings according to NAAMM-HMMA 803 or SDI A250.8.

1.4 COORDINATION

- A. Coordinate anchorage installation for hollow-metal frames. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors. Deliver such items to Project site in time for installation.

1.5 ACTION SUBMITTALS

- A. Product Data: For each type of product.
1. Include construction details, material descriptions, core descriptions, fire-resistance ratings, and finishes.
- B. Shop Drawings: Include the following:
1. Elevations of each door type.
 2. Details of doors, including vertical- and horizontal-edge details and metal thicknesses.
 3. Frame details for each frame type, including dimensioned profiles and metal thicknesses.



4. Locations of reinforcement and preparations for hardware.
 5. Details of each different wall opening condition.
 6. Details of anchorages, joints, field splices, and connections.
 7. Details of accessories.
 8. Details of moldings, removable stops, and glazing.
 9. Details of conduit and preparations for power, signal, and control systems.
- C. Samples for Initial Selection: For units with factory-applied color finishes.
- D. Schedule: Provide a schedule of hollow-metal work prepared by or under the supervision of supplier, using same reference numbers for details and openings as those on Drawings. Coordinate with final Door Hardware Schedule.
- 1.6 INFORMATIONAL SUBMITTALS
- A. Product Test Reports: For each type of hollow-metal door and frame assembly, for tests performed by a qualified testing agency.
- 1.7 DELIVERY, STORAGE, AND HANDLING
- A. Deliver hollow-metal work palletized, packaged, or crated to provide protection during transit and Project-site storage. Do not use nonvented plastic.
1. Provide additional protection to prevent damage to factory-finished units.
- B. Deliver welded frames with two removable spreader bars across bottom of frames, tack welded to jambs and mullions.
- C. Store hollow-metal work vertically under cover at Project site with head up. Place on minimum 4-inch- high wood blocking. Provide minimum 1/4-inch space between each stacked door to permit air circulation.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturer shall be a member of the Steel Door Institute
- B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. Ceco Door Products; an Assa Abloy Group company.
 2. Curries Company; an Assa Abloy Group company.
 3. MPI Group, LLC (The).
 4. Pioneer Industries, Inc.
 5. Republic Doors and Frames.
 6. Steelcraft; an Ingersoll-Rand company.
- C. Source Limitations: Obtain hollow-metal work from single source from single manufacturer.

2.2 REGULATORY REQUIREMENTS

- A. Fire-Rated Assemblies: Complying with NFPA 80 and listed and labeled by a qualified testing agency acceptable to authorities having jurisdiction for fire-protection ratings indicated, based on testing at positive pressure according to NFPA 252 or UL 10C.

2.3 INTERIOR DOORS AND FRAMES

- A. Construct interior doors and frames to comply with the standards indicated for materials, fabrication, hardware locations, hardware reinforcement, tolerances, and clearances, and as specified.
- B. Heavy-Duty Doors and Frames: SDI A250.8, Level 2.
1. Physical Performance: Level B according to SDI A250.4.
 2. Doors:
 - a. Type: As indicated in the Door and Frame Schedule.
 - b. Thickness: 1-3/4 inches
 - c. Face: Uncoated, cold-rolled steel sheet, minimum thickness of 0.042 inch.
 - d. Edge Construction: Model 2 (Seamless).
 - e. Core: Manufacturer's standard kraft-paper honeycomb, polystyrene, polyurethane, polyisocyanurate, mineral-board, or vertical steel-stiffener core at manufacturer's discretion.
 3. Frames:
 - a. Materials: Uncoated steel sheet, minimum thickness of 0.053 inch.
 - b. Construction: Knocked down.
 4. Exposed Finish: Prime and field coat paint to match existing trim.

2.4 FRAME ANCHORS

- A. Jamb Anchors:
1. Postinstalled Expansion Type for In-Place Concrete or Masonry: Minimum 3/8-inch-diameter bolts with expansion shields or inserts. Provide pipe spacer from frame to wall, with throat reinforcement plate, welded to frame at each anchor location.
- B. Floor Anchors: Formed from same material as frames, minimum thickness of 0.042 inch, and as follows:
1. Monolithic Concrete Slabs: Clip-type anchors, with two holes to receive fasteners.
 2. Separate Topping Concrete Slabs: Adjustable-type anchors with extension clips, allowing not less than 2-inch height adjustment. Terminate bottom of frames at finish floor surface.

2.5 MATERIALS

- A. Cold-Rolled Steel Sheet: ASTM A 1008/A 1008M, Commercial Steel (CS), Type B; suitable for exposed applications.
- B. Hot-Rolled Steel Sheet: ASTM A 1011/A 1011M, Commercial Steel (CS), Type B; free of scale, pitting, or surface defects; pickled and oiled.
- C. Frame Anchors: ASTM A 879/A 879M, Commercial Steel (CS), 04Z coating designation; mill phosphatized.
 - 1. For anchors built into exterior walls, steel sheet complying with ASTM A 1008/A 1008M or ASTM A 1011/A 1011M, hot-dip galvanized according to ASTM A 153/A 153M, Class B.
- D. Inserts, Bolts, and Fasteners: Hot-dip galvanized according to ASTM A 153/A 153M.
- E. Power-Actuated Fasteners in Concrete: Fastener system of type suitable for application indicated, fabricated from corrosion-resistant materials, with clips or other accessory devices for attaching hollow-metal frames of type indicated.
- F. Grout: ASTM C 476, except with a maximum slump of 4 inches, as measured according to ASTM C 143/C 143M.
- G. Mineral-Fiber Insulation: ASTM C 665, Type I (blankets without membrane facing); consisting of fibers manufactured from slag or rock wool; with maximum flame-spread and smoke-developed indexes of 25 and 50, respectively; passing ASTM E 136 for combustion characteristics.
- H. Bituminous Coating: Cold-applied asphalt mastic, compounded for 15-mil dry film thickness per coat. Provide inert-type noncorrosive compound free of asbestos fibers, sulfur components, and other deleterious impurities.

2.6 FABRICATION

- A. Fabricate hollow-metal work to be rigid and free of defects, warp, or buckle. Accurately form metal to required sizes and profiles, with minimum radius for metal thickness. Where practical, fit and assemble units in manufacturer's plant. To ensure proper assembly at Project site, clearly identify work that cannot be permanently factory assembled before shipment.
- B. Hollow-Metal Doors:
 - 1. Steel-Stiffened Door Cores: Provide minimum thickness 0.026 inch, steel vertical stiffeners of same material as face sheets extending full-door height, with vertical webs spaced not more than 6 inches apart. Spot weld to face sheets no more than 5 inches o.c. Fill spaces between stiffeners with glass- or mineral-fiber insulation.
 - 2. Fire Door Cores: As required to provide fire-protection ratings indicated.
 - 3. Vertical Edges for Single-Acting Doors: Provide beveled or square edges at manufacturer's discretion.
 - 4. Top Edge Closures: Close top edges of doors with inverted closures, except provide flush closures at exterior doors of same material as face sheets.



- C. Hollow-Metal Frames: Where frames are fabricated in sections due to shipping or handling limitations, provide alignment plates or angles at each joint, fabricated of same thickness metal as frames.
1. Provide countersunk, flat- or oval-head exposed screws and bolts for exposed fasteners unless otherwise indicated.
 2. Grout Guards: Weld guards to frame at back of hardware mortises in frames to be grouted.
 3. Floor Anchors: Weld anchors to bottoms of jambs with at least four spot welds per anchor; however, for slip-on drywall frames, provide anchor clips or countersunk holes at bottoms of jambs.
 4. Jamb Anchors: Provide number and spacing of anchors as follows:
 - a. Postinstalled Expansion Type: Locate anchors not more than 6 inches from top and bottom of frame. Space anchors not more than 26 inches o.c.
 5. Head Anchors: Two anchors per head for frames more than 42 inches wide and mounted in metal-stud partitions.
 6. Door Silencers: Except on weather-stripped frames, drill stops to receive door silencers as follows. Keep holes clear during construction.
 - a. Single-Door Frames: Drill stop in strike jamb to receive three door silencers.
- D. Fabricate concealed stiffeners and edge channels from either cold- or hot-rolled steel sheet.
- E. Hardware Preparation: Factory prepare hollow-metal work to receive templated mortised hardware; include cutouts, reinforcement, mortising, drilling, and tapping according to SDI A250.6, the Door Hardware Schedule, and templates.
1. Reinforce doors and frames to receive nontemplated, mortised, and surface-mounted door hardware.
 2. Comply with applicable requirements in SDI A250.6 and BHMA A156.115 for preparation of hollow-metal work for hardware.

2.7 STEEL FINISHES

- A. Prime Finish: Clean, pretreat, and apply manufacturer's standard primer.
1. Shop Primer: Manufacturer's standard, fast-curing, lead- and chromate-free primer complying with SDI A250.10; recommended by primer manufacturer for substrate; compatible with substrate and field-applied coatings despite prolonged exposure.

2.8 ACCESSORIES

- A. Louvers: Provide louvers for interior doors, where indicated, which comply with SDI 111C, with blades or baffles formed of 0.020-inch-thick, cold-rolled steel sheet set into 0.032-inch-thick steel frame.
1. Sightproof Louver: Stationary louvers constructed with inverted-V or inverted-Y blades.
 2. Fire-Rated Automatic Louvers: Louvers constructed with movable blades closed by actuating fusible link, and listed and labeled for use in fire-rated door assemblies of type

and fire-resistance rating indicated by same qualified testing and inspecting agency that established fire-resistance rating of door assembly.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- B. Examine roughing-in for embedded and built-in anchors to verify actual locations before frame installation.
- C. Prepare written report, endorsed by Installer, listing conditions detrimental to performance of the Work.
- D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Remove welded-in shipping spreaders installed at factory. Restore exposed finish by grinding, filling, and dressing, as required to make repaired area smooth, flush, and invisible on exposed faces.
- B. Drill and tap doors and frames to receive nontemplated, mortised, and surface-mounted door hardware.

3.3 INSTALLATION

- A. General: Install hollow-metal work plumb, rigid, properly aligned, and securely fastened in place. Comply with Drawings and manufacturer's written instructions.
- B. Hollow-Metal Frames: Install hollow-metal frames of size and profile indicated. Comply with SDI A250.11 or NAAMM-HMMA 840 as required by standards specified.
 - 1. Set frames accurately in position; plumbed, aligned, and braced securely until permanent anchors are set. After wall construction is complete, remove temporary braces, leaving surfaces smooth and undamaged.
 - a. At fire-rated openings, install frames according to NFPA 80.
 - b. Where frames are fabricated in sections because of shipping or handling limitations, field splice at approved locations by welding face joint continuously; grind, fill, dress, and make splice smooth, flush, and invisible on exposed faces.
 - c. Install frames with removable stops located on secure side of opening.
 - d. Install door silencers in frames before grouting.
 - e. Remove temporary braces necessary for installation only after frames have been properly set and secured.
 - f. Check plumb, square, and twist of frames as walls are constructed. Shim as necessary to comply with installation tolerances.



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- g. Field apply bituminous coating to backs of frames that will be filled with grout containing antifreezing agents.
 - 2. Floor Anchors: Provide floor anchors for each jamb and mullion that extends to floor, and secure with postinstalled expansion anchors.
 - a. Floor anchors may be set with power-actuated fasteners instead of postinstalled expansion anchors if so indicated and approved on Shop Drawings.
 - 3. Masonry Walls: Coordinate installation of frames to allow for solidly filling space between frames and masonry with grout.
 - 4. Installation Tolerances: Adjust hollow-metal door frames for squareness, alignment, twist, and plumb to the following tolerances:
 - a. Squareness: Plus or minus 1/16 inch, measured at door rabbet on a line 90 degrees from jamb perpendicular to frame head.
 - b. Alignment: Plus or minus 1/16 inch, measured at jambs on a horizontal line parallel to plane of wall.
 - c. Twist: Plus or minus 1/16 inch, measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
 - d. Plumbness: Plus or minus 1/16 inch, measured at jambs at floor.
 - C. Hollow-Metal Doors: Fit hollow-metal doors accurately in frames, within clearances specified below. Shim as necessary.
 - 1. Non-Fire-Rated Steel Doors:
 - a. Between Door and Frame Jambs and Head: 1/8 inch plus or minus 1/32 inch.
 - b. Between Edges of Pairs of Doors: 1/8 inch to 1/4 inch plus or minus 1/32 inch.
 - c. At Bottom of Door: 3/4 inch plus or minus 1/32 inch.
 - d. Between Door Face and Stop: 1/16 inch to 1/8 inch plus or minus 1/32 inch.
 - 2. Fire-Rated Doors: Install doors with clearances according to NFPA 80.
- 3.4 ADJUSTING AND CLEANING
- A. Final Adjustments: Check and readjust operating hardware items immediately before final inspection. Leave work in complete and proper operating condition. Remove and replace defective work, including hollow-metal work that is warped, bowed, or otherwise unacceptable.
 - B. Remove grout and other bonding material from hollow-metal work immediately after installation.
 - C. Prime-Coat Touchup: Immediately after erection, sand smooth rusted or damaged areas of prime coat and apply touchup of compatible air-drying, rust-inhibitive primer.

END OF SECTION 08 11 13



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SECTION 08 71 00

DOOR HARDWARE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project:
1. The Contract Drawings,
 2. The Specifications,
 3. The General Conditions,
 4. The Addendum, and
 5. The Contract City of New York Standard Construction Contract.

1.2 SUMMARY

- A. Section includes:
1. Mechanical door hardware for the following:
 - a. Swinging doors.
 2. Cylinders for door hardware specified in other Sections.
- B. Related Sections:
1. Section 08 11 13 "Hollow Metal Doors and Frames" for door and frame assemblies.
- C. Products furnished, but not installed, under this Section include the products listed below. Coordinating and scheduling the purchase and delivery of these products remain requirements of this Section.
1. Permanent lock cores and lock cylinders to be installed by City of New York.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated. Include construction and installation details, material descriptions, dimensions of individual components and profiles, and finishes.
- B. Door Hardware Schedule: Prepared by or under the supervision of Installer, detailing fabrication and assembly of door hardware, as well as installation procedures and diagrams. Coordinate final door hardware schedule with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.
1. Submittal Sequence: Submit door hardware schedule concurrent with submissions of Product Data, Samples, and Shop Drawings. Coordinate submission of door hardware



schedule with scheduling requirements of other work to facilitate the fabrication of other work that is critical in Project construction schedule.

2. Format: Use same scheduling sequence and format and use same door numbers as in the Contract Documents.
3. Content: Include the following information:
 - a. Identification number, location, hand, fire rating, size, and material of each door and frame.
 - b. Locations of each door hardware set, cross-referenced to Drawings on floor plans and to door and frame schedule.
 - c. Complete designations, including name and manufacturer, type, style, function, size, quantity, function, and finish of each door hardware product.
 - d. Fastenings and other pertinent information.
 - e. Explanation of abbreviations, symbols, and codes contained in schedule.
 - f. Mounting locations for door hardware.
 - g. List of related door devices specified in other Sections for each door and frame.

1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer.
- B. Product Certificates: For electrified door hardware, from the manufacturer.
 1. Certify that door hardware approved for use on types and sizes of labeled fire-rated doors complies with listed fire-rated door assemblies.
- C. Warranty: Special warranty specified in this Section.

1.5 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For each type of door hardware to include in maintenance manuals. Include final hardware schedule.

1.6 QUALITY ASSURANCE

- A. Installer Qualifications: Supplier of products and an employer of workers trained by product manufacturers and an Architectural Hardware Consultant who is available during the course of the Work to consult with Contractor, Commissioner, and City of New York about door hardware and keying.
 1. Warehousing Facilities: In Project's vicinity.
 2. Scheduling Responsibility: Preparation of door hardware and keying schedules.
 3. Engineering Responsibility: Preparation of data for electrified door hardware, including Shop Drawings, based on testing and engineering analysis of manufacturer's standard units in assemblies similar to those indicated for this Project.
- B. Source Limitations: Obtain each type of door hardware from a single manufacturer.
- C. Fire-Rated Door Assemblies: Where fire-rated door assemblies are indicated, provide door hardware rated for use in assemblies complying with NFPA 80 that are listed and labeled by a



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qualified testing agency, for fire-protection ratings indicated, based on testing at positive pressure according to NFPA 252 or UL 10C, unless otherwise indicated.

D. Preinstallation Conference: Conduct conference at Project site.

1. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
2. Inspect and discuss preparatory work performed by other trades.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Inventory door hardware on receipt and provide secure lock-up for door hardware delivered to Project site.
- B. Tag each item or package separately with identification coordinated with the final door hardware schedule, and include installation instructions, templates, and necessary fasteners with each item or package.

1.8 COORDINATION

- A. Coordinate layout and installation of floor-recessed door hardware with floor construction. Cast anchoring inserts into concrete.
- B. Installation Templates: Distribute for doors, frames, and other work specified to be factory prepared. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing door hardware to comply with indicated requirements.
- C. Security: Coordinate installation of door hardware, keying, and access control with City of New York's security consultant.
- D. Existing Openings: Where hardware components are scheduled for application to existing construction or where modifications to existing door hardware are required, field verify existing conditions and coordinate installation of door hardware to suit opening conditions and to provide proper door operation.

1.9 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of door hardware that fail in materials or workmanship within specified warranty period.
 1. Failures include, but are not limited to, the following:
 - a. Structural failures including excessive deflection, cracking, or breakage.
 - b. Faulty operation of doors and door hardware.
 - c. Deterioration of metals, metal finishes, and other materials beyond normal weathering and use.
 2. Warranty Period: Three years from date of Substantial Completion, unless otherwise indicated.



- a. Exit Devices: Two years from date of Substantial Completion.
- b. Manual Closers: 10 years from date of Substantial Completion.

1.10 TOOLS

- A. Tools and Instructions: Furnish a complete set of specialized tools and maintenance instructions for the City of New York's continued adjustment, maintenance, and removal and replacement of door hardware.

PART 2 - PRODUCTS

2.1 SCHEDULED DOOR HARDWARE

- A. Provide door hardware for each door as scheduled in Part 3 "Door Hardware Schedule" Article to comply with requirements in this Section.
 - 1. Door Hardware Sets: Provide quantity, item, size, finish or color indicated, and named manufacturers' products.
- B. Designations: Requirements for design, grade, function, finish, size, and other distinctive qualities of each type of door hardware are indicated in Part 3 "Door Hardware Schedule" Article. Products are identified by using door hardware designations, as follows:
 - 1. Named Manufacturers' Products: Manufacturer and product designation are listed for each door hardware type required for the purpose of establishing minimum requirements. Manufacturers' names are abbreviated in Part 3 "Door Hardware Schedule" Article.

2.2 HINGES

- A. Hinges: BHMA A156.1. Provide template-produced hinges for hinges installed on hollow-metal doors and hollow-metal frames.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Hager Companies.
 - b. IVES Hardware; an Ingersoll-Rand company.
 - c. McKinney Products Company; an ASSA ABLOY Group company.
 - d. Stanley Commercial Hardware; Div. of The Stanley Works.
- B. Cam Lift Hinges
 - 1. Provided by acoustical door manufacturer.

2.3 MECHANICAL LOCKS AND LATCHES

- A. Lock Functions: As indicated in door hardware schedule.



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- B. Lock Throw: Comply with testing requirements for length of bolts required for labeled fire doors, and as follows:
 - 1. Mortise Locks: Minimum 3/4-inch latchbolt throw.
 - 2. Deadbolts: Minimum 1.25-inch bolt throw.
- C. Lock Backset: 2-3/4 inches, unless otherwise indicated.
- D. Lock Trim:
 - 1. Description: As indicated on Drawings.
 - 2. Levers: Cast.
 - a. Manufacturers: Subject to compliance with requirements, provide products by the following:
 - 1) Schlage Commercial Lock Division; an Ingersoll-Rand company or approved equal.
 - 3. Escutcheons (Roses): Wrought.
 - 4. Dummy Trim: Match Lever lock trim and escutcheons.
 - 5. Operating Device: Lever with escutcheons (roses).
- E. Strikes: Provide manufacturer's standard strike for each lock bolt or latchbolt complying with requirements indicated for applicable lock or latch and with strike box and curved lip extended to protect frame; finished to match lock or latch.
 - 1. Dust Box: For all strike plates
 - 2. Extra-Long-Lip Strikes: For locks used on frames with applied wood casing trim.
 - 3. Aluminum-Frame Strike Box: Manufacturer's special strike box fabricated for aluminum framing.
- F. Mortise Locks: BHMA A156.13; Security Grade 1; stamped steel case with steel or brass parts; Series 1000.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by the following:
 - a. Schlage Commercial Lock Division; an Ingersoll-Rand company or approved equal.

2.4 EXIT LOCKS AND EXIT ALARMS

- A. Exit Locks and Alarms: BHMA A156.29, Grade 1.

2.5 LOCK CYLINDERS

- A. Construction Cores: Provide construction cores that are replaceable by permanent cores. Provide 10 construction master keys.
- B. Permanent cores to be installed by the City of New York.

2.6 KEYING

- A. Keying System: Factory registered, complying with guidelines in BHMA A156.28, Appendix A. Incorporate decisions made in keying conference.
 - 1. Existing System:
 - a. Master key or grand master key locks to City of New York's existing system.
 - 2. Keyed Alike: Key all cylinders to same change key.

2.7 OPERATING TRIM

- A. Operating Trim: BHMA A156.6; stainless steel, unless otherwise indicated.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by the following:
 - a. IVES Hardware; an Ingersoll-Rand company.
 - b. Rockwood Manufacturing Company.
 - c. Trimco.

2.8 SURFACE CLOSERS

- A. Surface Closers: BHMA A156.4; rack-and-pinion hydraulic type with adjustable sweep and latch speeds controlled by key-operated valves and forged-steel main arm. Comply with manufacturer's written recommendations for size of door closers depending on size of door, exposure to weather, and anticipated frequency of use. Provide factory-sized closers, adjustable to meet field conditions and requirements for opening force.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by the following:
 - a. LCN Closers; an Ingersoll-Rand company or approved equal.

2.9 MECHANICAL STOPS AND HOLDERS

- A. Wall-Mounted Stops: BHMA A156.16; polished cast brass, bronze, or aluminum base metal.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by the following:
 - a. IVES Hardware; an Ingersoll-Rand company.
 - b. Rockwood Manufacturing Company.
 - c. Trimco.

2.10 THRESHOLDS

- A. Thresholds: BHMA A156.21; fabricated to full width of opening indicated.



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1. Manufacturers: Subject to compliance with requirements, provide products by the following:
 - a. Pemko Manufacturing Co.; an ASSA ABLOY Group company.
 - b. Rixson Specialty Door Controls; an ASSA ABLOY Group company.
 - c. Zero International.

2.11 AUXILIARY DOOR HARDWARE

- A. Auxiliary Hardware: BHMA A156.16.

1. Manufacturers: Subject to compliance with requirements, provide products by the following:
 - a. Rockwood Manufacturing Company.
 - b. Trimco.

2.12 FABRICATION

- A. Manufacturer's Nameplate: Do not provide products that have manufacturer's name or trade name displayed in a visible location except in conjunction with required fire-rated labels and as otherwise approved by Commissioner.

1. Manufacturer's identification is permitted on rim of lock cylinders only.

- B. Base Metals: Produce door hardware units of base metal indicated, fabricated by forming method indicated, using manufacturer's standard metal alloy, composition, temper, and hardness. Furnish metals of a quality equal to or greater than that of specified door hardware units and BHMA A156.18.

- C. Fasteners: Provide door hardware manufactured to comply with published templates prepared for machine, wood, and sheet metal screws. Provide screws that comply with commercially recognized industry standards for application intended, except aluminum fasteners are not permitted. Provide Phillips flat-head screws with finished heads to match surface of door hardware, unless otherwise indicated.

1. Concealed Fasteners: For door hardware units that are exposed when door is closed, except for units already specified with concealed fasteners. Do not use through bolts for installation where bolt head or nut on opposite face is exposed unless it is the only means of securely attaching the door hardware. Where through bolts are used on hollow door and frame construction, provide sleeves for each through bolt.

2. Fire-Rated Applications:

- a. Machine Screws: For the following:

- 1) Hinges mortised to doors or frames.
- 2) Strike plates to frames.
- 3) Closers to doors and frames.

- b. Steel Through Bolts: For the following unless door blocking is provided:



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- 1) Surface hinges to doors.
 - 2) Closers to doors and frames.
 - 3) Surface-mounted exit devices.
3. Spacers or Sex Bolts: For through bolting of hollow-metal doors.
 4. Gasketing Fasteners: Provide noncorrosive fasteners for exterior applications and elsewhere as indicated.

2.13 FINISHES

- A. Provide finishes complying with BHMA A156.18 as indicated in door hardware schedule.
- B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- C. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine doors and frames, with Installer present, for compliance with requirements for installation tolerances, labeled fire-rated door assembly construction, wall and floor construction, and other conditions affecting performance.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Steel Doors and Frames: For surface applied door hardware, drill and tap doors and frames according to ANSI/SDI A250.6.

3.3 INSTALLATION

- A. Mounting Heights: Mount door hardware units at heights to comply with the following unless otherwise indicated or required to comply with governing regulations.
 1. Standard Steel Doors and Frames: ANSI/SDI A250.8.
 2. Custom Steel Doors and Frames: HMMA 831.
- B. Install each door hardware item to comply with manufacturer's written instructions. Where cutting and fitting are required to install door hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation of surface protective



trim units with finishing. Do not install surface-mounted items until finishes have been completed on substrates involved.

1. Set units level, plumb, and true to line and location. Adjust and reinforce attachment substrates as necessary for proper installation and operation.
 2. Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors according to industry standards.
- C. Hinges: Install types and in quantities indicated in door hardware schedule but not fewer than the number recommended by manufacturer for application indicated or one hinge for every 30 inches of door height, whichever is more stringent, unless other equivalent means of support for door, such as spring hinges or pivots, are provided.
- D. Lock Cylinders: Install construction cores to secure building and areas during construction period.
1. Furnish permanent cores to City of New York for installation.
- E. Stops: Provide walls stops for doors unless floor or other type stops are indicated in door hardware schedule. Do not mount floor stops where they will impede traffic.
- F. Perimeter Gasketing: Apply to head and jamb, forming seal between door and frame.
- G. Door Bottoms: Apply to bottom of door, forming seal with threshold when door is closed.

3.4 ADJUSTING

- A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.
1. Door Closers: Adjust sweep period to comply with accessibility requirements and requirements of authorities having jurisdiction.

3.5 CLEANING AND PROTECTION

- A. Clean adjacent surfaces soiled by door hardware installation.
- B. Clean operating items as necessary to restore proper function and finish.
- C. Provide final protection and maintain conditions that ensure that door hardware is without damage or deterioration at time of Substantial Completion.

3.6 DEMONSTRATION

- A. Engage a factory-authorized service representative to train the City of New York's maintenance personnel to adjust, operate, and maintain door hardware and door hardware finishes.

3.7 DOOR HARDWARE SCHEDULE



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Manufacturer List

<u>Code</u>	<u>Name</u>
IVE	Ives
KAB	Kaba
LCN	LCN Closers
S&G	Sargen and Greenleaf
SCH	Schlage
VON	Von Duprin
ZER	Zero International

HARDWARE GROUP NO. 01 - ATTIC EQUIPMENT ROOM DOOR
PROVIDE EACH SGL DOOR(S) WITH THE FOLLOWING:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR - BASIS OF DESIGN
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	STOREROOM LOCK	AL-L9080-SAT	626	SCH
1	EA	SURFACE CLOSER	4040XP RW/PA	689	LCN
1	EA	WALL BUMPER	411R-W		IVE

END OF SECTION 08 71 00



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GYPSUM BOARD SHAFT WALL ASSEMBLIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project:
1. The Contract Drawings,
 2. The Specifications,
 3. The General Conditions,
 4. The Addendum, and
 5. The Contract City of New York Standard Construction Contract.

1.2 SUMMARY

- A. Section Includes: Gypsum board shaft wall assemblies.

1.3 ACTION SUBMITTALS

- A. Product Data: For each component of gypsum board shaft wall assembly.

1.4 INFORMATIONAL SUBMITTALS

- A. Evaluation Reports: For shaft wall assemblies and firestop tracks, from ICC-ES.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Store materials inside under cover and keep them dry and protected against weather, condensation, direct sunlight, construction traffic, and other potential causes of damage. Stack panels flat and supported on risers on a flat platform to prevent sagging.

1.6 FIELD CONDITIONS

- A. Environmental Limitations: Comply with ASTM C 840 requirements or with gypsum board manufacturer's written recommendations, whichever are more stringent.
- B. Do not install interior products until installation areas are enclosed and conditioned.
- C. Do not install panels that are wet, moisture damaged, or mold damaged.
1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, and irregular shape.



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2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Fire-Resistance-Rated Assemblies: For fire-resistance-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 119 by an independent testing agency.

2.2 GYPSUM BOARD SHAFT WALL ASSEMBLIES

- A. Fire-Resistance Rating: 2 hours.
- B. Studs: Manufacturer's standard C-H profile for repetitive members, corner and end members, and fire-resistance-rated assembly indicated.
 1. Depth: As indicated.
 2. Minimum Base-Metal Thickness: As indicated.
- C. Runner Tracks: Manufacturer's standard J-profile track with manufacturer's standard long-leg length, but at least 51 mm [2 inches] long and matching studs in depth.
 1. Minimum Base-Metal Thickness: Matching steel studs.
- D. Firestop Tracks: Provide firestop track at head of shaft wall on each floor level.
- E. Room-Side Finish: Gypsum board.
- F. Shaft-Side Finish: As indicated by fire-resistance-rated assembly design designation.
- G. Insulation: Sound attenuation blankets.

2.3 PANEL PRODUCTS

- A. Panel Size: Provide in maximum lengths and widths available that will minimize joints in each area and that correspond with support system indicated.

2.4 NON-LOAD-BEARING STEEL FRAMING

- A. Steel Framing Members: Comply with ASTM C 645 requirements for metal unless otherwise indicated.
 1. Protective Coating: ASTM A 653/A 653M, G40 (Z120), hot-dip galvanized or ASTM A 653/A 653M, G60 (Z180), hot-dip galvanized unless otherwise indicated.



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- B. Firestop Tracks: Top runner manufactured to allow partition heads to expand and contract with movement of the structure while maintaining continuity of fire-resistance-rated assembly indicated; in thickness not less than indicated for studs and in width to accommodate depth of studs.
1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Fire Trak Corp.; Fire Trak System.
 - b. Grace Construction Products; FlameSafe FlowTrak System.
 - c. Metal-Lite, Inc.; The System.
 - d. Steel Network Inc. (The); VertiClip SLD or VertiTrack VTD Series.

2.5 AUXILIARY MATERIALS

- A. General: Provide auxiliary materials that comply with manufacturer's written recommendations.
- B. Trim Accessories: Cornerbead, edge trim, and control joints of material and shapes as specified in Division 09 Section "Gypsum Board Shaft Wall Assemblies" that comply with gypsum board shaft wall assembly manufacturer's written recommendations for application indicated.
- C. Steel Drill Screws: ASTM C 1002 unless otherwise indicated.
- D. Track Fasteners: Power-driven fasteners of size and material required to withstand loading conditions imposed on shaft wall assemblies without exceeding allowable design stress of track, fasteners, or structural substrates in which anchors are embedded.
1. Expansion Anchors: Fabricated from corrosion-resistant materials, with capability to sustain, without failure, a load equal to 5 times design load, as determined by testing according to ASTM E 488 conducted by a qualified testing agency.
 2. Power-Actuated Anchors: Fastener system of type suitable for application indicated, fabricated from corrosion-resistant materials, with capability to sustain, without failure, a load equal to 10 times design load, as determined by testing according to ASTM E 1190 conducted by a qualified testing agency.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates to which gypsum board shaft wall assemblies attach or abut, with Installer present, including hollow-metal frames, elevator hoistway door frames, cast-in anchors, and structural framing. Examine for compliance with requirements for installation tolerances and other conditions affecting performance.
- B. Examine panels before installation. Reject panels that are wet, moisture damaged, or mold damaged.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. **Sprayed Fire-Resistive Materials:** Coordinate with gypsum board shaft wall assemblies so both elements of Work remain complete and undamaged. Patch or replace sprayed fire-resistive materials removed or damaged during installation of shaft wall assemblies.
- B. After sprayed fire-resistive materials are applied, remove only to extent necessary for installation of gypsum board shaft wall assemblies and without reducing the fire-resistive material thickness below that which is required to obtain fire-resistance rating indicated. Protect remaining fire-resistive materials from damage.

3.3 INSTALLATION

- A. **General:** Install gypsum board shaft wall assemblies to comply with requirements of fire-resistance-rated assemblies indicated, manufacturer's written installation instructions, and ASTM C 754 other than stud-spacing requirements.
- B. Do not bridge building expansion joints with shaft wall assemblies; frame both sides of expansion joints with furring and other support.
- C. Install supplementary framing in gypsum board shaft wall assemblies around openings and as required for blocking, bracing, and support of gravity and pullout loads of fixtures, equipment, services, heavy trim, furnishings, wall-mounted door stops, and similar items that cannot be supported directly by shaft wall assembly framing.
 - 1. **Reinforcing:** Where handrails directly attach to gypsum board shaft wall assemblies, provide galvanized steel reinforcing strip with 0.84-mm [0.033-inch] minimum thickness of base metal (uncoated), accurately positioned and secured behind at least one layer of face panel.
- D. **Penetrations:** At penetrations in shaft wall, maintain fire-resistance rating of shaft wall assembly by installing supplementary steel framing around perimeter of penetration and fire protection behind boxes containing wiring devices, elevator call buttons, elevator floor indicators, and similar items.
- E. Isolate perimeter of gypsum panels from building structure to prevent cracking of panels, while maintaining continuity of fire-rated construction.
- F. **Firestop Tracks:** Where indicated, install to maintain continuity of fire-resistance-rated assembly indicated.
- G. **Control Joints:** Install control joints according to ASTM C 840 and in specific locations approved by Commissioner while maintaining fire-resistance rating of gypsum board shaft wall assemblies.
- H. **Installation Tolerance:** Install each framing member so fastening surfaces vary not more than 3 mm [1/8 inch] from the plane formed by faces of adjacent framing.

3.4 PROTECTION



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- A. Protect installed products from damage from weather, condensation, direct sunlight, construction, and other causes during remainder of the construction period.
- B. Remove and replace panels that are wet, moisture damaged, or mold damaged.
 - 1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, and irregular shape.
 - 2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

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SECTION 09 22 16

NON-STRUCTURAL METAL FRAMING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project:
1. The Contract Drawings,
 2. The Specifications,
 3. The General Conditions,
 4. The Addendum, and
 5. The Contract City of New York Standard Construction Contract.

1.2 SUMMARY

- A. This Section includes non-load-bearing steel framing members for the following applications:
1. Interior framing systems (e.g., supports for partition walls, framed soffits, furring, etc.).

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.

1.4 QUALITY ASSURANCE

- A. Fire-Test-Response Characteristics: For fire-resistance-rated assemblies that incorporate non-load-bearing steel framing, provide materials and construction identical to those tested in assembly indicated according to ASTM E 119 by an independent testing agency.
- B. STC-Rated Assemblies: For STC-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 90 and classified according to ASTM E 413 by an independent testing agency.

1.5 INFORMATIONAL SUBMITTALS

- A. Evaluation Reports: For dimpled steel studs and runners firestop tracks, from ICC-ES.

PART 2 - PRODUCTS

2.1 NON-LOAD-BEARING STEEL FRAMING, GENERAL

- A. Recycled Content of Steel Products: Postconsumer recycled content plus one-half of pre-consumer recycled content not less than 30 percent.
- B. Framing Members, General: Comply with ASTM C 754 for conditions indicated.
 - 1. Steel Sheet Components: Comply with ASTM C 645 requirements for metal unless otherwise indicated.
 - 2. Protective Coating: ASTM A 653/A 653M, G60 [Z180], hot-dip galvanized unless otherwise indicated.

2.2 STEEL FRAMING FOR FRAMED ASSEMBLIES

- A. Studs and Runners: ASTM C 645. Use either steel studs and runners or dimpled steel studs and runners.
 - 1. Steel Studs and Runners:
 - a. Minimum Base-Metal Thickness: As indicated on Drawings 0.84 mm [0.033 inch].
 - b. Depth: As indicated on Drawings.
 - 2. Dimpled Steel Studs and Runners:
 - a. Minimum Base-Metal Thickness: As indicated on Drawings 0.64 mm [0.025 inch].
 - b. Depth: As indicated on Drawings.
- B. Slip-Type Head Joints: Where indicated, provide one of the following:
 - 1. Single Long-Leg Runner System: ASTM C 645 top runner with 51-mm- [2-inch-] deep flanges in thickness not less than indicated for studs, installed with studs friction fit into top runner and with continuous bridging located within 305 mm [12 inches] of the top of studs to provide lateral bracing.
 - 2. Double-Runner System: ASTM C 645 top runners, inside runner with 51-mm- [2-inch-] deep flanges in thickness not less than indicated for studs and fastened to studs, and outer runner sized to friction fit inside runner.
 - 3. Deflection Track: Steel sheet top runner manufactured to prevent cracking of finishes applied to interior partition framing resulting from deflection of structure above; in thickness not less than indicated for studs and in width to accommodate depth of studs.
 - a. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - 1) Dietrich Metal Framing; SLP-TRK Slotted Deflection Track.
 - 2) MBA Building Supplies; FlatSteel Deflection Track Slotted Deflecto Track.
 - 3) Steel Network Inc. [The]; VertiClip SLD VertiTrack VTD Series.
 - 4) Superior Metal Trim; Superior Flex Track System [SFT].
 - 5) Telling Industries; Vertical Slip Track Vertical Slip Track II.
- C. Firestop Tracks: Top runner manufactured to allow partition heads to expand and contract with movement of the structure while maintaining continuity of fire-resistance-rated assembly



indicated; in thickness not less than indicated for studs and in width to accommodate depth of studs.

1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Fire Trak Corp.; Fire Trak System attached to studs with Fire Trak Posi Klip.
 - b. Grace Construction Products; FlameSafe FlowTrak System.
 - c. Metal-Lite, Inc.; The System.
 - d. Steel Network Inc. [The]; VertiClip SLD VertiTrack VTD Series.
- D. Flat Strap and Backing Plate: Steel sheet for blocking and bracing in length and width indicated.
 1. Minimum Base-Metal Thickness: As indicated on Drawings 0.84 mm [0.033 inch].
- E. Flat Ballistic Wall Sheet: Steel sheet, screw-fastened to steel studs for bonding of exterior glass mat sheathing to it as part of "Ballistic Wall" as indicated on drawings.
 1. Minimum Base-Metal Thickness: As indicated on Drawings 0.84 mm [0.033 inch].
- F. Hat-Shaped, Rigid Furring Channels: ASTM C 645.
 1. Minimum Base-Metal Thickness: As indicated on Drawings 0.018 inch [0.45 mm] 0.033 inch [0.84 mm].
 2. Depth: As indicated on Drawings.
- G. Cold-Rolled Furring Channels: 1.34-mm [0.053-inch] uncoated-steel thickness, with minimum 13-mm- [1/2-inch-] wide flanges.
 1. Depth: As indicated on Drawings.
 2. Furring Brackets: Adjustable, corrugated-edge type of steel sheet with minimum uncoated-steel thickness of 0.8 mm [0.033 inch].
 3. Tie Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, 1.59-mm- [0.062-inch-] diameter wire, or double strand of 1.21-mm- [0.048-inch-] diameter wire.

2.3 AUXILIARY MATERIALS

- A. General: Provide auxiliary materials that comply with referenced installation standards.
 1. Fasteners for Metal Framing: Of type, material, size, corrosion resistance, holding power, and other properties required to fasten steel members to substrates.
- B. Isolation Strip at Exterior Walls: Provide one of the following:
 1. Asphalt-Saturated Organic Felt: ASTM D 226, Type I [No. 15 asphalt felt], nonperforated.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and substrates, with Installer present, and including welded hollow-metal frames, cast-in anchors, and structural framing, for compliance with requirements and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Suspended Assemblies: Coordinate installation of suspension systems with installation of overhead structure to ensure that inserts and other provisions for anchorages to building structure have been installed to receive hangers at spacing required to support the Work and that hangers will develop their full strength.
 - 1. Furnish concrete inserts and other devices indicated to other trades for installation in advance of time needed for coordination and construction.
- B. Coordination with Sprayed Fire-Resistive Materials:
 - 1. Before sprayed fire-resistive materials are applied, attach offset anchor plates or ceiling runners (tracks) to surfaces indicated to receive sprayed fire-resistive materials. Where offset anchor plates are required, provide continuous plates fastened to building structure not more than 600 mm [24 inches] o.c.
 - 2. After sprayed fire-resistive materials are applied, remove them only to extent necessary for installation of non-load-bearing steel framing. Do not reduce thickness of fire-resistive materials below that required for fire-resistance ratings indicated. Protect adjacent fire-resistive materials from damage.

3.3 INSTALLATION, GENERAL

- A. Installation Standard: ASTM C 754.
 - 1. Gypsum Plaster Assemblies: Also comply with requirements in ASTM C 841 that apply to framing installation.
 - 2. Portland Cement Plaster Assemblies: Also comply with requirements in ASTM C 1063 that apply to framing installation.
 - 3. Gypsum Veneer Plaster Assemblies: Also comply with requirements in ASTM C 844 that apply to framing installation.
 - 4. Gypsum Board Assemblies: Also comply with requirements in ASTM C 840 that apply to framing installation.
- B. Install supplementary framing, and blocking to support fixtures, equipment services, heavy trim, grab bars, toilet accessories, furnishings, or similar construction.
- C. Install bracing at terminations in assemblies.
- D. Do not bridge building control and expansion joints with non-load-bearing steel framing members. Frame both sides of joints independently.

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3.4 INSTALLING FRAMED ASSEMBLIES

- A. Where studs are installed directly against exterior masonry walls or dissimilar metals at exterior walls, install isolation strip between studs and exterior wall.
- B. Install framing system components according to spacings indicated, but not greater than spacings required by referenced installation standards for assembly types.
 - 1. Single-Layer Application: 406 mm [16 inches] o.c. unless otherwise indicated.
 - 2. Multilayer Application: 406 mm [16 inches] o.c. unless otherwise indicated.
 - 3. Tile Backing Panels: 406 mm [16 inches] o.c. unless otherwise indicated.
- C. Install studs so flanges within framing system point in same direction.
- D. Install tracks [runners] at floors and overhead supports. Extend framing full height to structural supports or substrates above suspended ceilings except where partitions are indicated to terminate at suspended ceilings. Continue framing around ducts penetrating partitions above ceiling.
 - 1. Slip-Type Head Joints: Where framing extends to overhead structural supports, install to produce joints at tops of framing systems that prevent axial loading of finished assemblies.
 - 2. Door Openings: Screw vertical studs at jambs to jamb anchor clips on door frames; install runner track section [for cripple studs] at head and secure to jamb studs.
 - a. Install two studs at each jamb unless otherwise indicated.
 - b. Install cripple studs at head adjacent to each jamb stud, with a minimum 13-mm [1/2-inch] clearance from jamb stud to allow for installation of control joint in finished assembly.
 - c. Extend jamb studs through suspended ceilings and attach to underside of overhead structure.
 - 3. Other Framed Openings: Frame openings other than door openings the same as required for door openings unless otherwise indicated. Install framing below sills of openings to match framing required above door heads.
 - 4. Fire-Resistance-Rated Partitions: Install framing to comply with fire-resistance-rated assembly indicated and support closures and to make partitions continuous from floor to underside of solid structure.
 - a. Firestop Track: Where indicated, install to maintain continuity of fire-resistance-rated assembly indicated.
 - 5. Sound-Rated Partitions: Install framing to comply with sound-rated assembly indicated.
- E. Direct Furring:
 - 1. Screw to wood framing.
 - 2. Attach to concrete or masonry with stub nails, screws designed for masonry attachment, or powder-driven fasteners spaced 610 mm [24 inches] o.c.
- F. Installation Tolerance: Install each framing member so fastening surfaces vary not more than 3 mm [1/8 inch] from the plane formed by faces of adjacent framing.



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SECTION 09 66 23

RESINOUS MATRIX TERRAZZO FLOORING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project:
1. The Contract Drawings,
 2. The Specifications,
 3. The General Conditions,
 4. The Addendum, and
 5. The Contract City of New York Standard Construction Contract.

1.2 SUMMARY

- A. Section Includes:
1. Thin-set, epoxy-resin terrazzo flooring and base.
- B. Related Requirements:
1. Section 079200 "Joint Sealants" for sealants installed with terrazzo.

1.3 DEFINITIONS

- A. Aggregate: Marble chips or other types of aggregate.

1.4 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.
1. Review methods and procedures related to terrazzo including, but not limited to, the following:
 - a. Inspect and discuss condition of substrate and other preparatory work performed by other trades.
 - b. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
 - c. Review special terrazzo designs and patterns.

1.5 ACTION SUBMITTALS

- A. Product Data: For each type of product.

- B. Shop Drawings: Include terrazzo installation requirements. Include plans, elevations, sections, component details, and attachments to other work. Show layout of the following:
 - 1. Divider strips.
 - 2. Control-joint strips.
 - 3. Accessory strips.
 - 4. Terrazzo patterns.
 - C. Samples for Verification: For each type, material, color, and pattern of terrazzo and accessory required showing the full range of color, texture, and pattern variations expected. Label each terrazzo sample to identify manufacturer's matrix color and aggregate types, sizes, and proportions. Prepare Samples of same thickness and from same material to be used for the Work, in size indicated below:
 - 1. Terrazzo: 6-inch-square Samples.
 - 2. Accessories: 6-inch long Samples of each exposed strip item required.
- 1.6 INFORMATIONAL SUBMITTALS
- A. Qualification Data: For Installer.
 - B. Material Certificates: For each type of terrazzo material or product, from manufacturer.
- 1.7 CLOSEOUT SUBMITTALS
- A. Maintenance Data: For terrazzo to include in maintenance manuals.
- 1.8 QUALITY ASSURANCE
- A. Source Limitations: Obtain primary terrazzo materials from single source from single manufacturer. Provide secondary materials including patching and fill material, joint sealant, and repair materials of type and from source recommended by manufacturer of primary materials.
 - B. Source Limitations for Aggregates: Obtain each color, grade, type, and variety of granular materials from single source with resources to provide materials of consistent quality in appearance and physical properties.
 - C. Mockups: Build mockups to verify selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
 - 1. Build mockups for terrazzo including accessories.
 - a. Size: Minimum 20 sq. ft. of typical poured-in-place flooring condition for each color and pattern in locations directed by Commissioner.
 - 2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Commissioner specifically approves such deviations in writing.



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1.9 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to Project site in supplier's original wrappings and containers, labeled with source's or manufacturer's name, material or product brand name, and lot number if any.
- B. Store materials in their original, undamaged packages and containers, inside a well-ventilated area protected from weather, moisture, soiling, extreme temperatures, and humidity.

1.10 FIELD CONDITIONS

- A. Environmental Limitations: Comply with manufacturer's written instructions for substrate temperature, ambient temperature, moisture, ventilation, and other conditions affecting terrazzo installation.
- B. Provide permanent lighting or, if permanent lighting is not in place, simulate permanent lighting conditions during terrazzo installation.
- C. Close spaces to traffic during terrazzo application and for not less than 24 hours after application unless manufacturer recommends a longer period.
- D. Control and collect water and dust produced by grinding operations. Protect adjacent construction from detrimental effects of grinding operations.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. NTMA Standards: Comply with NTMA's "Terrazzo Specifications and Design Guide" and with written recommendations for terrazzo type indicated unless more stringent requirements are specified.

2.2 EPOXY-RESIN TERRAZZO

- A. Epoxy-Resin Terrazzo: Comply with NTMA's "Terrazzo Specifications and Design Guide" and manufacturer's written instructions for matrix and aggregate proportions and mixing.
 - 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. General Polymers Corporation; Terrazzo 1100.
 - b. Master Terrazzo Technologies LLC; Morricite.
 - c. Terrazzo & Marble Supply Companies; Terroxy Resin Systems.
 - 2. Thickness: Match adjacent existing epoxy-resin terrazzo flooring thickness.
 - 3. Custom Mix Color and Pattern: As indicated on drawings.
- B. Materials:



1. Flexible Reinforcing Membrane: Manufacturer's resinous membrane for substrate-crack preparation and reflective-crack reduction.
 - a. Reinforcement: Fiberglass scrim.
2. Primer: Manufacturer's product recommended for substrate and use indicated.
3. Epoxy-Resin Matrix: Manufacturer's standard recommended for use indicated and in color required for mix indicated.
 - a. Physical Properties without Aggregates:
 - 1) Hardness: 60 to 85 per ASTM D 2240, Shore D.
 - 2) Minimum Tensile Strength: 3000 psi per ASTM D 638 for a 2-inch specimen made using a "C" die per ASTM D 412.
 - 3) Minimum Compressive Strength: 10,000 psi per ASTM D 695, Specimen B cylinder.
 - 4) Chemical Resistance: No deleterious effects by contaminants listed below after seven-day immersion at room temperature per ASTM D 1308.
 - a) Distilled water.
 - b) Mineral water.
 - c) Isopropanol.
 - d) Ethanol.
 - e) 0.025 percent detergent solution.
 - f) 1.0 percent soap solution.
 - g) 10 percent sodium hydroxide.
 - h) 10 percent hydrochloric acid.
 - i) 30 percent sulfuric acid.
 - j) 5 percent acetic acid.
 - b. Physical Properties with Aggregates: For resin blended with Georgia white marble, ground, grouted, and cured per requirements in NTMA's "Terrazzo Specifications and Design Guide"; comply with the following:
 - 1) Flammability: Self-extinguishing, maximum extent of burning 1/4 inch per ASTM D 635.
 - 2) Thermal Coefficient of Linear Expansion: 0.0025 inch/inch per deg F for temperature range of minus 12 to plus 140 deg F per ASTM D 696.
4. Aggregates: Comply with NTMA gradation standards for mix indicated and contain no deleterious or foreign matter.
 - a. Abrasion and Impact Resistance: Less than 40 percent loss per ASTM C 131.
 - b. 24-Hour Absorption Rate: Less than 0.75 percent.
 - c. Dust Content: Less than 1.0 percent by weight.
 - d. Recycled Content of Epoxy-Resin Terrazzo: Postconsumer recycled content plus one-half of preconsumer recycled content not less than 50 percent.
5. Finishing Grout: Resin based.

2.3 STRIP MATERIALS

- A. Thin-Set Divider Strips: L-type angle, 1/4 inch deep.



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1. Material: Brass.
2. Top Width: 0.125 inch.

- B. Control-Joint Strips: Separate, double L-type angles, positioned back to back, that match material and color of divider strips and in depth required for topping thickness indicated.
- C. Accessory Strips: Match divider-strip width, material, and color unless otherwise indicated. Use the following types of accessory strips as required to provide a complete installation:
1. Brass 0.25 inch Edge-bead strips for exposed edges of terrazzo.

2.4 MISCELLANEOUS ACCESSORIES

- A. Strip Adhesive: Epoxy-resin adhesive recommended by adhesive manufacturer for this use.
1. Adhesives shall have a VOC content of 70 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
- B. Anchoring Devices:
1. Strips: Provide mechanical anchoring devices or adhesives for strip materials as recommended by manufacturer and required for secure attachment to substrate.
- C. Patching and Fill Material: Terrazzo manufacturer's resinous product approved and recommended by manufacturer for application indicated.
- D. Joint Compound: Terrazzo manufacturer's resinous product approved and recommended by manufacturer for application indicated.
- E. Resinous Matrix Terrazzo Cleaner: Chemically neutral cleaner with pH factor between 7 and 10 that is biodegradable, phosphate free, and recommended by sealer manufacturer for use on terrazzo type indicated.
- F. Sealer: Slip- and stain-resistant, penetrating-type sealer that is chemically neutral; does not affect terrazzo color or physical properties; is recommended by sealer manufacturer; and complies with NTMA's "Terrazzo Specifications and Design Guide" for terrazzo type indicated.
1. Surface Friction: Not less than 0.6 according to ASTM D 2047.
 2. Acid-Base Properties: With pH factor between 7 and 10.
 3. Sealers shall have a VOC content of 200 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and areas, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.



- B. Proceed with installation only after unsatisfactory conditions, including levelness tolerances, have been corrected.

3.2 PREPARATION

- A. Clean substrates of substances, including oil, grease, and curing compounds, that might impair terrazzo bond. Provide clean, dry, and neutral substrate for terrazzo application.
- B. Protect other work from water and dust generated by grinding operations. Control water and dust to comply with environmental protection regulations.
 - 1. Erect and maintain temporary enclosures and other suitable methods to limit water damage and dust migration and to ensure adequate ambient temperatures and ventilation conditions during installation.

3.3 EPOXY-RESIN TERRAZZO INSTALLATION

- A. Comply with NTMA's written recommendations for terrazzo and accessory installation.
- B. Place, rough grind, grout, cure grout, fine grind, and finish terrazzo according to manufacturer's written instructions and NTMA's "Terrazzo Specifications and Design Guide."
- C. Installation Tolerance: Limit variation in terrazzo surface from level to 1/4 inch in 10 feet; noncumulative.
- D. Ensure that matrix components and fluids from grinding operations do not stain terrazzo by reacting with divider and control-joint strips.
- E. Delay fine grinding until heavy trade work is complete and construction traffic through area is restricted.
- F. Flexible Reinforcing Membrane:
 - 1. Prepare and prefill substrate cracks with membrane material.
 - 2. Install membrane to produce full substrate coverage in areas to receive terrazzo.
 - 3. Reinforce membrane with fiberglass scrim.
 - 4. Prepare membrane according to manufacturer's written instructions before applying substrate primer.
- G. Primer: Apply to terrazzo substrates according to manufacturer's written instructions.
- H. Strip Materials:
 - 1. Divider and Control-Joint Strips:
 - a. Locate divider strips to match existing pattern in adjacent areas.
 - b. Install control-joint strips back to back directly above concrete-slab control joints.
 - c. Install strips in adhesive setting bed without voids below strips, or mechanically anchor strips as required to attach strips to substrate, as recommended by strip manufacturer.



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2. Accessory Strips: Install as required to provide a complete installation.

3.4 REPAIR

- A. Cut out and replace terrazzo areas that evidence lack of bond with substrate. Cut out terrazzo areas in panels defined by strips and replace to match adjacent terrazzo, or repair panels according to NTMA's written recommendations, as approved by Commissioner.

3.5 CLEANING AND PROTECTION

A. Cleaning:

1. Remove grinding dust from installation and adjacent areas.
2. Wash surfaces with cleaner according to NTMA's written recommendations and manufacturer's written instructions; rinse surfaces with water and allow them to dry thoroughly.

B. Sealing:

1. Seal surfaces according to NTMA's written recommendations.
2. Apply sealer according to sealer manufacturer's written instructions.
3. Use one coat of sealer and three coats of wax.

- C. Protection: Provide final protection and maintain conditions, in a manner acceptable to Commissioner, that ensure that terrazzo is without damage or deterioration at time of Substantial Completion.

END OF SECTION 09 66 23



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SECTION 09 91 23

INTERIOR PAINTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project:
1. The Contract Drawings,
 2. The Specifications,
 3. The General Conditions,
 4. The Addendum, and
 5. The Contract City of New York Standard Construction Contract.

1.2 SUMMARY

- A. Section includes surface preparation and the application of paint systems on the following interior substrates:
1. Concrete.
 2. Steel.
 3. Galvanized metal.
 4. Gypsum board.
- B. Related Requirements:
1. Division 05 Sections for shop priming of metal substrates with primers specified in this Section.

1.3 DEFINITIONS

- A. Gloss Level 1: Not more than 5 units at 60 degrees and 10 units at 85 degrees, according to ASTM D 523.
- B. Gloss Level 2: Not more than 10 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D 523.
- C. Gloss Level 3: 10 to 25 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D 523.
- D. Gloss Level 4: 20 to 35 units at 60 degrees and not less than 35 units at 85 degrees, according to ASTM D 523.
- E. Gloss Level 5: 35 to 70 units at 60 degrees, according to ASTM D 523.
- F. Gloss Level 6: 70 to 85 units at 60 degrees, according to ASTM D 523.

- G. Gloss Level 7: More than 85 units at 60 degrees, according to ASTM D 523.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product. Include preparation requirements and application instructions.
- B. Samples for Initial Selection: For each type of topcoat product.
- C. Samples for Verification: For each type of paint system and in each color and gloss of topcoat.
1. Submit Samples on rigid backing, 200 mm [8 inches] square.
 2. Step coats on Samples to show each coat required for system.
 3. Label each coat of each Sample.
 4. Label each Sample for location and application area.
- D. Product List: For each product indicated, include the following:
1. Cross-reference to paint system and locations of application areas. Use same designations indicated on Drawings and in schedules.
 2. Printout of current "MPI Approved Products List" for each product category specified in Part 2, with the proposed product highlighted.
 3. VOC content.

1.5 MATERIALS SUBMITTALS

- A. Furnish extra materials, from the same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
1. Paint: 5 percent, but not less than 3.8 L [1 gal.] of each material and color applied.

1.6 QUALITY ASSURANCE

- A. Mockups: Apply mockups of each paint system indicated and each color and finish selected to verify preliminary selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
1. Commissioner will select one surface to represent surfaces and conditions for application of each paint system specified in Part 3.
 - a. Vertical and Horizontal Surfaces: Provide samples of at least 9 sq. m [100 sq. ft.].
 - b. Other Items: Commissioner will designate items or areas required.
 2. Final approval of color selections will be based on mockups.
 - a. If preliminary color selections are not approved, apply additional mockups of additional colors selected by Commissioner at no added cost to the City of New York.



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3. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Commissioner specifically approves such deviations in writing.
4. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 7 deg C [45 deg F].
 1. Maintain containers in clean condition, free of foreign materials and residue.
 2. Remove rags and waste from storage areas daily.

1.8 FIELD CONDITIONS

- A. Apply paints only when temperature of surfaces to be painted and ambient air temperatures are between 10 and 35 deg C [50 and 95 deg F].
- B. Do not apply paints when relative humidity exceeds 85 percent; at temperatures less than 3 deg C [5 deg F] above the dew point; or to damp or wet surfaces.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 1. Benjamin Moore & Co.
 2. Pratt & Lambert.
 3. Sherwin-Williams Company (The).
 4. Duron, Inc.
 5. Kelly-Moore Paints.
 6. Behr Paint
 7. Envirocoatings

2.2 PAINT, GENERAL

- A. MPI Standards: Provide products that comply with MPI standards indicated and that are listed in its "MPI Approved Products List."
- B. Material Compatibility:
 1. Provide materials for use within each paint system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.



2. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.

C. Colors: As indicated on drawings.

2.3 PRIMERS/SEALERS

A. Primer Sealer, Interior, Institutional Low Odor/VOC: MPI #149, E3 range.

1. Benjamin Moore; Eco Spec WB.
2. Pratt & Lambert; ProHide
3. Sherwin Williams; Harmony Interior Latex Primer.

2.4 METAL PRIMERS

A. Primer not required on shop-primed items.

B. Primer, Rust-Inhibitive, Water Based: MPI #107, E3 range.

1. Benjamin Moore; Super Spec High Performance.
2. Duron Paints; Dura Clad Universal Acrylic Metal Primer.

C. Primer, Galvanized, Water Based: MPI #134, E3 range.

1. Behr Paint; Int/Ext DTM Acrylic Primer & Finish.
2. Pratt & Lambert; High HP Acrylic Primer.

2.5 WATER-BASED PAINTS

A. Latex, Interior, Institutional Low Odor/VOC, Flat (Gloss Level 1): MPI #143, E3 range.

1. Benjamin Moore; Eco Spec WB.
2. Sherwin Williams; Harmony.
3. Pratt & Lambert; Prohide.

B. Latex, Interior, Institutional Low Odor/VOC, Eggshell (Gloss Level 2): MPI #144, E3 range.

1. Benjamin Moore; Eco Spec WB.
2. Sherwin Williams; Harmony.

C. Latex, Interior, Institutional Low Odor/VOC, Semi-Gloss (Gloss Level 5): MPI #147, E3 range.

1. Benjamin Moore; Eco Spec WB.
2. Sherwin Williams; Harmony.
3. Pratt & Lambert; Prohide.

2.6 SOURCE QUALITY CONTROL

A. Testing of Paint Materials: Commissioner reserves the right to invoke the following procedure:

1. Engage the services of a qualified testing agency to sample paint materials. Contractor will be notified in advance and may be present when samples are taken. If paint materials have already been delivered to Project site, samples may be taken at Project site. Samples will be identified, sealed, and certified by testing agency.
2. Testing agency will perform tests for compliance with product requirements.
3. Commissioner may direct Contractor to stop applying coatings if test results show materials being used do not comply with product requirements. Contractor shall remove non-complying paint materials from Project site, pay for testing, and repaint surfaces painted with rejected materials. Contractor will be required to remove rejected materials from previously painted surfaces if, on repainting with complying materials, the two paints are incompatible.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.
- B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:
 1. Gypsum Board: 12 percent.
- C. Gypsum Board Substrates: Verify that finishing compound is sanded smooth.
- D. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.
- E. Proceed with coating application only after unsatisfactory conditions have been corrected.
 1. Application of coating indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Comply with manufacturer's written instructions and recommendations in "MPI Manual" applicable to substrates indicated.
- B. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.
 1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.
- C. Clean substrates of substances that could impair bond of paints, including dust, dirt, oil, grease, and incompatible paints and encapsulants.



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1. Remove incompatible primers and reprime substrate with compatible primers or apply tie coat as required to produce paint systems indicated.
- D. Steel Substrates: Remove rust, loose mill scale, and shop primer, if any. Clean using methods recommended in writing by paint manufacturer but not less than the following:
 1. SSPC-SP 2, "Hand Tool Cleaning."
 2. SSPC-SP 3, "Power Tool Cleaning."
 3. SSPC-SP 7/NACE No. 4, "Brush-off Blast Cleaning."
 4. SSPC-SP 11, "Power Tool Cleaning to Bare Metal."
- E. Shop-Primed Steel Substrates: Clean field welds, bolted connections, and abraded areas of shop paint, and paint exposed areas with the same material as used for shop priming to comply with SSPC-PA 1 for touching up shop-primed surfaces.

3.3 APPLICATION

- A. Apply paints according to manufacturer's written instructions and to recommendations in "MPI Manual."
 1. Use applicators and techniques suited for paint and substrate indicated.
 2. Paint surfaces behind movable equipment and furniture same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed equipment or furniture with prime coat only.
 3. Paint front and backsides of access panels, removable or hinged covers, and similar hinged items to match exposed surfaces.
 4. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
 5. Primers specified in painting schedules may be omitted on items that are factory primed or factory finished if acceptable to topcoat manufacturers.
- B. Tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of same material are to be applied. Tint undercoats to match color of topcoat, but provide sufficient difference in shade of undercoats to distinguish each separate coat.
- C. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.
- D. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.
- E. Painting Fire Suppression, Plumbing, HVAC, Electrical, Communication, and Electronic Safety and Security Work:
 1. Paint the following work where exposed in equipment rooms:
 - a. Equipment, including panelboards.
 - b. Pipe hangers and supports.
 - c. Metal conduit.



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2. Paint the following work where exposed in occupied spaces:
 - a. Pipe hangers and supports.
 - b. Metal conduit.
 - c. Exposed piping, conduits, ductwork, mechanical, and electrical equipment.
 - d. Other items as directed by Commissioner.
3. Paint portions of internal surfaces of metal ducts, without liner, behind air inlets and outlets that are visible from occupied spaces.

3.4 FIELD QUALITY CONTROL

- A. Dry Film Thickness Testing: Commissioner may engage the services of a qualified testing and inspecting agency to inspect and test paint for dry film thickness.
 1. Contractor shall touch up and restore painted surfaces damaged by testing.
 2. If test results show that dry film thickness of applied paint does not comply with paint manufacturer's written recommendations, Contractor shall pay for testing and apply additional coats as needed to provide dry film thickness that complies with paint manufacturer's written recommendations.

3.5 CLEANING AND PROTECTION

- A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.
- B. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.
- C. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Commissioner, and leave in an undamaged condition.
- D. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.6 INTERIOR PAINTING SCHEDULE

- A. Steel Substrates:
 1. Latex over Alkyd Primer System:
 - a. Prime Coat: Primer, Rust-Inhibitive, Water Based: MPI #107.
 - b. Prime Coat: Shop primer specified in Division 05 Section where substrate is specified.
 - c. Intermediate Coat: Latex, interior, matching topcoat.
 - d. Topcoat: Latex, interior, institutional low odor/VOC, semi-gloss, (Gloss Level 5), MPI #147.



B. Galvanized-Metal Substrates:

1. Latex over Waterborne Primer System:

- a. Prime Coat: Primer, galvanized, water based, MPI #134.
- b. Intermediate Coat: Latex, interior, matching topcoat.
- c. Topcoat: Latex, interior, institutional low odor/VOC, semi-gloss, (Gloss Level 5), MPI #147.

C. Gypsum Board Substrates:

1. Institutional Low-Odor/VOC Latex System:

- a. Prime Coat: Primer sealer, interior, institutional low odor/VOC, MPI #149.
- b. Intermediate Coat: Latex, interior, institutional low odor/VOC, matching topcoat.
- c. Topcoat: Latex, interior, institutional low odor/VOC, (Gloss Level 2), MPI #144.

END OF SECTION 09 91 23



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SECTION 09 94 19

MULTICOLOR INTERIOR FINISHING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project:
1. The Contract Drawings,
 2. The Specifications,
 3. The General Conditions,
 4. The Addendum, and
 5. The Contract City of New York Standard Construction Contract.

1.2 SUMMARY

- A. Section includes surface preparation and field application of multicolor interior coating systems applied on the following substrates:
1. Gypsum board.
- B. Related Requirements:
1. Division 09 painting Sections for special-use coatings and general field painting.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Samples: For each exposed product and for each color and texture specified, 8 inches square in size.
- C. Product Schedule: For multicolor coating systems. Use same designations indicated on Drawings.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Store materials in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F.
1. Maintain containers in clean condition, free of foreign materials and residue.
 2. Remove rags and waste from storage areas daily.

1.5 FIELD CONDITIONS



- A. Environmental Limitations: Do not apply coatings until spaces are enclosed and weatherproof, work above ceilings is complete, and ambient temperature and humidity conditions are maintained at the levels indicated for Project when occupied for its intended use.

PART 2 - PRODUCTS

2.1 MULTICOLOR COATING SYSTEMS, GENERAL

- A. Master Painters Institute (MPI) Standards: Comply with recommendations in "MPI Architectural Painting Specification Manual" applicable to products and coating systems indicated.
- B. Material Compatibility: Provide materials for use within each coating system that are compatible with one another and substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.
- C. Colors and Patterns: As indicated on drawings.

2.2 FILLERS AND PRIMERS

- A. General: Undercoatings recommended in writing for use in coating systems by manufacturer of multicolor interior coating on substrates and under conditions indicated.
- B. Primer/Sealer for Multicolor Systems: Acrylic primer/sealer product recommended in writing for use in coating system indicated by manufacturer of multicolor interior coating.

2.3 MULTICOLOR COATINGS

- A. Multicolor Coating: Water- or solvent-based coat that provides a decorative polychromatic finish.
 - 1. Products: Subject to compliance with requirements, provide one of the following or approved equal:
 - a. Zolatone Interior Finishes, Master Coating Technologies; Polomyx; Polomyx Airless; Pearlton.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Applicator present, for compliance with requirements and conditions affecting performance of coatings.
 - 1. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:
 - a. Gypsum Board: 12 percent.



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2. Gypsum Board Substrates: Verify that finishing compound is sanded smooth.
3. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
4. Begin coating application only after unsatisfactory conditions have been corrected.
5. Beginning coating application indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Comply with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual" applicable to substrates indicated.
- B. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be coated. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and coating.
 1. After completing coating operations, reinstall items that were removed; use workers skilled in the trades involved.
- C. Clean substrates of substances that could impair bond of coatings, including dust, dirt, oil, grease, and incompatible primers, paints, and encapsulants.

3.3 APPLICATION

- A. Apply coatings according to manufacturer's written instructions using applicators and techniques suited for coating and substrate indicated.
- B. Coat surfaces behind movable equipment and furniture the same as similar exposed surfaces. Before final installation, coat surfaces behind permanently fixed equipment or furniture with prime coat only.
- C. Coat backsides of access panels, removable or hinged covers, and similar hinged items to match exposed surfaces.
- D. Apply coating systems to produce uniformly textured, colored, and patterned finished-surface films without substrates, undercoats, marks, or stains showing through. Produce sharp, even glass lines and color breaks.

3.4 CLEANING AND PROTECTION

- A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.
- B. After completing coating application, clean spattered surfaces. Remove spattered coatings by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.
- C. Protect work of other trades against damage from coating operation. Correct damage by cleaning, repairing, replacing, and recoating, as approved by the Commissioner, and leave in an undamaged condition.



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- D. At completion of construction activities of other trades, touch up and restore damaged or defaced coated surfaces.

3.5 DEMONSTRATION

- A. Instruct City of NY's maintenance personnel in proper applicators and techniques for repairing multicolored interior coating systems on substrates indicated.

3.6 MULTICOLOR INTERIOR COATING SCHEDULE

- A. Gypsum Board Substrates:

1. Prime Coat: Primer/sealer for multicolor systems.
2. Multicolor Base Coat: Multicolor coating.
3. Multicolor Pattern Coat: Multicolor coating.

END OF SECTION 09 94 19



SECTION 101423 - PANEL SIGNAGE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The following documents apply to all required work for the project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the City of New York Construction Contract.

1.2 SUMMARY

- A. Section Includes:
 - 1. Panel signs.

1.3 COORDINATION

- A. Furnish templates for placement of sign-anchorage devices embedded in permanent construction by other installers.
- B. Furnish templates for placement of electrical service embedded in permanent construction by other installers.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings: For panel signs.
 - 1. Include fabrication and installation details and attachments to other work.
 - 2. Show sign mounting heights, locations of supplementary supports to be provided by other installers, and accessories.
 - 3. Show message list, typestyles, graphic elements, including raised characters and Braille, and layout for each sign at least half size.
 - 4. Show locations of electrical service connections.
 - 5. Include diagrams for power, signal, and control wiring.
- C. Samples for Initial Selection: For each type of sign assembly, exposed component, and exposed finish.
 - 1. Include representative Samples of available typestyles and graphic symbols.
- D. Samples for Verification: For each type of sign assembly showing all components and with the required finish(es), in manufacturer's standard size unless otherwise indicated and as follows:



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1. Panel Signs: Full-size Sample.
 2. Full-size Samples, if approved, will be returned to Contractor for use in Project.
- E. Product Schedule: For panel signs. Use same designations indicated on Drawings or specified.

1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer and manufacturer.
- B. Sample Warranty: For special warranty.

1.6 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For signs to include in maintenance manuals.

1.7 QUALITY ASSURANCE

- A. Installer Qualifications: An entity that employs installers and supervisors who are properly trained by manufacturer.

1.8 FIELD CONDITIONS

- A. Field Measurements: Verify locations of anchorage devices embedded in permanent construction by other installers by field measurements before fabrication, and indicate measurements on Shop Drawings.

1.9 WARRANTY

- A. Special Warranty: Manufacturer agrees to repair or replace components of signs that fail in materials or workmanship within specified warranty period.
 1. Failures include, but are not limited to, the following:
 - a. Deterioration of finishes beyond normal weathering.
 - b. Deterioration of embedded graphic image.
 - c. Separation or delamination of sheet materials and components.
 2. Warranty Period: Five years from date of Substantial Completion.



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PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Accessibility Standard: Comply with applicable provisions in the USDOJ's "2010 ADA Standards for Accessible Design", the ABA standards of the Federal agency having jurisdiction and ICC A117.1.

2.2 PANEL SIGNS

- A. Panel Sign: Sign with smooth, uniform surfaces; with message and characters having uniform faces, sharp corners, and precisely formed lines and profiles; and as follows:
1. Solid-Sheet Sign and Returns: Brass sheet with finish specified in "Surface Finish and Applied Graphics" Subparagraph and as follows:
 - a. Thickness: 0.125 inch (3.18 mm).
 - b. Etched and Filled Graphics: Sign face etched or routed to receive enamel-paint infill.
 2. Engraved Plastic-Laminate Sign: Plastic-laminate face laminated to contrasting phenolic core to produce composite sheet.
 - a. Composite-Sheet Thickness: 0.25 inch (6.35 mm).
 - b. Engraved Graphics: Characters engraved through plastic-laminate face sheet to expose contrasting phenolic core.
 - c. Plastic-Laminate Color and Pattern: As selected by Architect from manufacturer's full range.
 3. Sign-Panel Perimeter: Finish edges smooth.
 - a. Edge Condition at Vertical Edges and Horizontal Edges: Square cut.
 - b. Corner Condition in Elevation: Square.
 4. Mounting: Manufacturer's standard method for substrates indicated.
 5. Surface Finish and Applied Graphics:
 - a. Integral Metal Finish: As selected by Architect from full range of industry finishes.
 - b. Integral Acrylic Sheet Color: As selected by Architect from full range of industry colors.
 - c. Painted Finish and Graphics: Manufacturer's standard, factory-applied as selected by Architect from manufacturer's full range.
 6. Text and Typeface: Typeface as selected by Architect from manufacturer's full range.
 7. Flatness Tolerance: Sign shall remain flat or uniformly curved under installed conditions as indicated on Drawings and within a tolerance of plus or minus 1/16 inch (1.5 mm) measured diagonally from corner to corner.



2.3 PANEL-SIGN MATERIALS

- A. Brass Sheet (Yellow Brass): ASTM B 36/B 36M, alloy recommended by manufacturer and finisher for finish indicated to match existing.
- B. Acrylic Sheet: ASTM D 4802, category as standard with manufacturer for each sign, Type UVF (UV filtering).

2.4 ACCESSORIES

- A. Fasteners and Anchors: Manufacturer's standard as required for secure anchorage of signs, noncorrosive and compatible with each material joined, and complying with the following unless otherwise indicated:
 - 1. Use concealed fasteners and anchors unless indicated to be exposed.
 - 2. Sign Mounting Fasteners:
 - a. Concealed Studs: Concealed (blind), threaded studs welded or brazed to back of sign material or screwed into back of sign assembly unless otherwise indicated.
 - b. Projecting Studs: Threaded studs with sleeve spacer, welded or brazed to back of sign material or screwed into back of sign assembly, unless otherwise indicated.
 - c. Through Fasteners: Exposed metal fasteners matching sign finish, with type of head indicated, and installed in predrilled holes.
 - 3. Inserts: Furnish inserts to be set by other installers into concrete or masonry work.
- B. Adhesive: As recommended by sign manufacturer.

2.5 FABRICATION

- A. General: Provide manufacturer's standard sign assemblies according to requirements indicated.
 - 1. Preassemble signs in the shop to greatest extent possible. Disassemble signs and assemblies only as necessary for shipping and handling limitations. Clearly mark units for reassembly and installation; apply markings in locations concealed from view after final assembly.
 - 2. Mill joints to a tight, hairline fit. Form assemblies and joints exposed to weather to resist water penetration and retention.
 - 3. Comply with AWS for recommended practices in welding and brazing. Provide welds and brazes behind finished surfaces without distorting or discoloring exposed side. Clean exposed welded and brazed connections of flux, and dress exposed and contact surfaces.
 - 4. Conceal connections if possible; otherwise, locate connections where they are inconspicuous.
 - 5. Internally brace signs for stability, to meet structural performance loading without oil-canning or other surface deformation, and for securing fasteners.
 - 6. Provide rabbets, lugs, and tabs necessary to assemble components and to attach to existing work. Drill and tap for required fasteners. Use concealed fasteners where possible; use exposed fasteners that match sign finish.



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- B. Surface-Engraved Graphics: Machine engrave characters and other graphic devices into indicated sign surface to produce precisely formed copy, incised to uniform depth.
 - 1. Engraved Metal: Fill engraved graphics with manufacturer's standard baked enamel.
 - 2. Engraved Opaque Acrylic Sheet: Fill engraved graphics with manufacturer's standard enamel.
 - 3. Face-Engraved Clear Acrylic Sheet: Fill engraved copy with manufacturer's standard enamel. Apply manufacturer's standard opaque background color coating to back face of acrylic sheet.
 - 4. Engraved Plastic Laminate: Engrave through exposed face ply of plastic-laminate sheet to expose contrasting core ply.
- C. Subsurface-Applied Graphics: Apply graphics to back face of clear face-sheet material to produce precisely formed image. Image shall be free of rough edges.
- D. Subsurface-Engraved Graphics: Reverse engrave back face of clear face-sheet material. Fill resulting copy with manufacturer's standard enamel. Apply opaque manufacturer's standard background color coating over enamel-filled copy.
- E. Shop- and Subsurface-Applied Vinyl: Align vinyl film in final position and apply to surface. Firmly press film from the middle outward to obtain good bond without blisters or fishmouths.

2.6 GENERAL FINISH REQUIREMENTS

- A. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- B. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.
- C. Directional Finishes: Run grain with long dimension of each piece and perpendicular to long dimension of finished trim or border surface unless otherwise indicated.
- D. Organic, Anodic, and Chemically Produced Finishes: Apply to formed metal after fabrication but before applying contrasting polished finishes on raised features unless otherwise indicated.

2.7 METALLIC-COATED STEEL FINISHES

- A. Surface Preparation: Clean surfaces of oil and other contaminants. Use cleaning methods that do not leave residue. After cleaning, apply a conversion coating compatible with the organic coating to be applied over it. Clean welds, mechanical connections, and abraded areas and apply galvanizing repair paint, complying with SSPC-Paint 20, to comply with ASTM A 780/A 780M.
- B. Factory Prime Finish: After cleaning and pretreating, apply an air-dried primer compatible with the organic coating to be applied over it.



2.8 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- B. Verify that sign-support surfaces are within tolerances to accommodate signs without gaps or irregularities between backs of signs and support surfaces unless otherwise indicated.
- C. Verify that anchorage devices embedded in permanent construction are correctly sized and located to accommodate signs.
- D. Verify that electrical service is correctly sized and located to accommodate signs.
- E. Proceed with installation only after unsatisfactory conditions have been corrected.

2.9 INSTALLATION

- A. General: Install signs using mounting methods indicated and according to manufacturer's written instructions.
 - 1. Install signs level, plumb, true to line, and at locations and heights indicated, with sign surfaces free of distortion and other defects in appearance.
 - 2. Install signs so they do not protrude or obstruct according to the accessibility standard.
 - 3. Before installation, verify that sign surfaces are clean and free of materials or debris that would impair installation.
 - 4. Corrosion Protection: Coat concealed surfaces of exterior aluminum in contact with grout, concrete, masonry, wood, or dissimilar metals, with a heavy coat of bituminous paint.
- B. Accessible Signage: Install in locations on walls as indicated on Drawings and according to the accessibility standard.
- C. Mounting Methods:
 - 1. Concealed Studs: Using a template, drill holes in substrate aligning with studs on back of sign. Remove loose debris from hole and substrate surface.
 - a. Masonry Substrates: Fill holes with adhesive. Leave recess space in hole for displaced adhesive. Place sign in position and push until flush to surface, embedding studs in holes. Temporarily support sign in position until adhesive fully sets.
 - b. Thin or Hollow Surfaces: Place sign in position and flush to surface, install washers and nuts on studs projecting through opposite side of surface, and tighten.
 - 2. Projecting Studs: Using a template, drill holes in substrate aligning with studs on back of sign. Remove loose debris from hole and substrate surface.
 - a. Masonry Substrates: Fill holes with adhesive. Leave recess space in hole for displaced adhesive. Place spacers on studs, place sign in position, and push until spacers are pinched between sign and substrate, embedding the stud ends in holes. Temporarily support sign in position until adhesive fully sets.



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- b. Thin or Hollow Surfaces: Place spacers on studs, place sign in position with spacers pinched between sign and substrate, and install washers and nuts on stud ends projecting through opposite side of surface, and tighten.
3. Through Fasteners: Drill holes in substrate using predrilled holes in sign as template. Countersink holes in sign if required. Place sign in position and flush to surface. Install through fasteners and tighten.
4. Adhesive: Clean bond-breaking materials from substrate surface and remove loose debris. Apply linear beads or spots of adhesive symmetrically to back of sign and of suitable quantity to support weight of sign after cure without slippage. Keep adhesive away from edges to prevent adhesive extrusion as sign is applied and to prevent visibility of cured adhesive at sign edges. Place sign in position, and push to engage adhesive. Temporarily support sign in position until adhesive fully sets.

2.10 ADJUSTING AND CLEANING

- A. Remove and replace damaged or deformed signs and signs that do not comply with specified requirements. Replace signs with damaged or deteriorated finishes or components that cannot be successfully repaired by finish touchup or similar minor repair procedures.
- B. Remove temporary protective coverings and strippable films as signs are installed.
- C. On completion of installation, clean exposed surfaces of signs according to manufacturer's written instructions, and touch up minor nicks and abrasions in finish. Maintain signs in a clean condition during construction and protect from damage until acceptance by Owner.

END OF SECTION 101423



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SECTION 14 21 05

ELEVATOR CABS

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

A. The following documents apply to all required work for the Project:

1. The Contract Drawings,
2. The Specifications,
3. The General Conditions,
4. The Addendum, and
5. The Contract City of New York Standard Construction Contract.

1.2 DESCRIPTION

A. Work Included

1. The intent of the specifications is to provide a cab enclosure construction and interior finish duplicating the present configuration, size, operation or system type.
2. The description of work covers the following:
 - a. Wall finishes.
 - b. Returns, transom, entrance and door finishes.
 - c. Floor coverings.
 - d. Ventilation systems.
 - e. Lighting.

B. Clarifications/Exceptions

1. Particular attention must be given to the fact that a singular design document is being employed for various types of new or existing systems (new vs. remodel).
 - a. Applicable criteria must be adjusted to suit each individual situation, however; all design modifications are subject to the City of New York's express approval.

1.3 QUALITY ASSURANCE

A. Qualifications

1. The work of this Section shall be performed by contractors regularly engaged in the business of manufacturing and modernizing elevator cabs of the type and character required by these specifications.



B. Regulatory Agencies

1. All clearances, workmanship, construction, design and materials shall be in accordance with the requirements of the latest ASME A17.1 Code and all codes of the City, State, other authorities having legal jurisdiction and the codes hereinafter named.
2. The New York City Appendix K Code shall govern except where other codes have jurisdiction include more stringent rules or conflict with the local code.

C. Reference Standards

1. ASME A17.1 and latest amendments and supplements.
2. New York City Building Code.
3. NEC 2002 as adopted by New York City with amendments.
4. UBC and ANSI A17.1 for seismic requirements.
5. NAAMM - National Association of Architectural Metal Manufacturers.

1.4 EXTENDED WARRANTY

- A. The Contractor shall warrant the work in accordance with the General Conditions and the following requirements. When a conflict occurs, the General Conditions shall prevail.
- B. The Contractor shall warrant the Work specified herein for one (1) year after date of acceptance by the City of New York against becoming unserviceable or developing an objectionable appearance resulting from either defective or non-conforming materials and or workmanship.
- C. The Contractor shall warrant that all assemblies, components, and finishes specified comply with the Contract Documents, and all applicable codes, regulations and local restrictions and are compatible with each other, adjoining substrates, materials, Work, and other conditions of installations, and expected use.
- D. The Contractor shall warrant against premature material failure due to improper product design, fabrication or installation.
- E. Defects shall include, but not be limited to, the following:
 1. Noticeable deterioration of finish: Discoloration, peeling, oxidation, non-uniformity of color and sheen, warp, twist and oil-canning.
 2. Loose or missing parts.
 3. Failure of any and all equipment and its components.
 4. Missing or deteriorated sound insulation.
 5. Vibrations, rattling and improper venting with associated noise.
 6. Non-alignment of wall and ceiling panels.
 7. Insecure wall paneling mounting.



1.5 SUBMITTALS

A. Submittal Schedule

1. Within thirty (30) days of the Order to Commence the selected Contractor shall provide schedule of all submittals employing format and enumerating all architectural drawings, samples and miscellaneous submittals by name, quantity, etc.

- B. Submit samples of the following listed items at the same time as the submission of the shop drawings for each cab type. The Commissioner reserves the right to request additional samples which will show fabrication techniques, workmanship of components and design of hardware and other exposed auxiliary items.

<u>Item</u>	<u>Quantity</u>	<u>Size</u>	<u>Description</u>
S1	1	4 in. x 4 in.	Section of rear wall and sidewall panel finish.
S2	1	As required	Ceiling lighting assembly
S3	3	4 in. x 4 in.	Section of door panel and front return finish.
S4	1	6 in. Long	Antique or brushed brass handrail assembly.
S5	1	6 in. Long	Antique or Brushed brass sill.
S6	1	4 in. x 4 in.	Section of ceiling finish.
S8	1	12 in. x 12 in.	Protective pad and color.
S9	1	6 in. Long	Antique or brushed brass base.

C. Shop Drawings

1. Provide six (6) copies of shop drawings for each type of cab including scaled plans, elevations, reflected ceiling plans, and sections, and large scale details noting dimensions, materials, finishes, gauges, clearances, joints, fasteners, and anchoring methods.
2. Locate and define hinged and removable panels, show the adjustability of the wall panels, access panels, emergency doors and ceiling panels, light fixtures, operating and signal panels and devices, locks, wiring, lamps and bulbs, power receptacles and finishes for car operating panels, fixed and hinged and all other required components and accessories. Provide details of handrails and their supporting devices, concealed ventilation slots, concealed pad hook arrangements, etc.
3. Shop drawings shall be fully coordinated by the Contractor with fixtures and other devices.

D. Product Data



1. Submit to the Commissioner for review, catalog cuts, data sheets and color brochures to indicate the performance, fabrication, materials, accessories, components and finishes proposed for the elevator cabs (i.e., fan, lighting fixtures, etc.).

E. Maintenance Instructions

1. Provide four (4) printed maintenance manuals including time schedules and instructions for the maintenance for each item specified. Instruct and demonstrate the proper maintenance to the Commissioner.
2. Provide recommendations for the car and maintenance of the specified metal and related cab finishes including manufacturers recommend materials and products.

1.6 PRODUCT HANDLING

A. Protection

1. Use all means to protect materials of this Section before, during and after fabrication.

B. Requirements

1. In the event of damage, immediately make all repairs and replacements necessary to the satisfaction of the Commissioner and at no additional cost to the City of New York.

C. Delivery

1. Materials shall be delivered to the site ready for use in the manufacturer's original and unopened containers and packaging, bearing labels as to type of material and manufacturer's name. Delivered materials shall be identical to accepted samples. Provide heavy-duty protection paper for non-coated items. Material shall be easily removed.

D. Storage

1. Ensure that the materials are stored under cover in a dry and clean location, off the ground. Delivered materials, which are damaged or otherwise not suitable for installation, shall be removed from the job site and replaced with acceptable materials.

PART 2 - PRODUCTS

2.1 CAR ENCLOSURES

A. General – All Elevators

1. The design, materials and finishes of the cab enclosures shall be as shown on the Architectural Drawings: A-401 and as specified below:



2. Materials:

- a. Cold-Rolled Sheet Steel Sections: ASTM A366
- b. Rolled Steel Floor Plate: ASTM A786
- c. Steel Supports and Reinforcement: ASTM A36
- d. Aluminum-Alloy Rolled Tread Plate: ASTM B632
- e. Stainless Steel: ASTM A167 Type 302 or 304
- f. Stainless Steel Bars and Shapes: ASTM A276
- g. Stainless Steel Tubes: ASTM A269
- h. Aluminum Extrusions: ASTM B221
- i. Nickel Silver Extrusions: ASTM B151
- j. Plastic Laminate (Comply with NEMA LD3, 0.05" thick, color, texture and finish as specified.)
- k. Antique or Brushed Brass Metal.

B. Car Shell (New) – All Elevators

1. Steel Shell: 14 gauge furniture steel reinforced and designed to accept the new finished wall panels. Finish shell panels with one (1) coat of rust inhibitive primer and two (2) coats of enamel paint. Apply 1/8" thick, rubberized sound deadening material to the hoistway side of the shell.
 - a. All panels shall have minimum radii. Apply sealant beads to panel joints before bolting together with lock washers.
 - b. Where applicable, side emergency exit shall be of inconspicuous flush design, fitted with concealed hinges and an approved locking arrangement. Provide a three-point locking system; at top, bottom and side. Provide an additional five-pin keyed lock and electrical safety switch per local code.
2. Canopy: Where applicable canopy construction methods shall match the shell walls. Use not less than No. 12 gauge furniture sheet steel, and adequately support and brace canopy to comply with the loading requirements of the local codes and ASME A17.1 Standards.
 - a. Provide necessary cutouts for the installation of fan and top emergency exit. Arrange exit panel to swing up using a heavy-duty piano hinge. The exit panel shall have dual locks, necessary stops and a handle. Provide electrical safety switch to prevent operation of the elevator with car top open. When in the locked position, the panel shall be flush with the interior face of the canopy with hairline joints.
3. Base: Provide a finished Stainless Steel base. Provide concealed vent slots above side and rear wall base for proper ventilation of the car based on the CFM of the exhaust fan and car interior size, as required by code. Arrange and size vent slots for quiet operation without any whistling. Use 16 gauge baffles to protect the hoistway side of the vent slots. Prepare Base to accept finished floor, as selected by the City of New York.



4. Flooring: Recess and prepare platform with marine grade plywood sub-flooring to accept the finished flooring.
 - a. Provide new car door entrance saddle using a nickel silver sill with mounting cradles designed for the present car door configuration and set to receive new flooring, as further specified.

C. Interior Finishes

1. Wall Panels

- a. Provide antique or brushed brass as indicated on Architectural Drawings and specifications
- b. Finish rear side of panels with appropriate surface material to support the mounting of panel clips. Ensure that the panels will not become dislodged during the normal operation of the elevator, during safety applications and buffer engagements. Special provisions shall be furnished to prevent removal of the panels through acts of vandalism and misuse.

2. Car Fronts

- a. Front return panels shall be antique or brushed brass as indicated on Architectural Drawings and specifications, and have required cutouts for the keyed switches, indicators, emergency light fixture, car operating station, and the specified special control and signaling devices applicable to each unit.
 - (1) Engrave the elevator identification number and capacity, a "No Smoking" sign, and other code mandated signs directly to the front return panel top section. Applied panels are unacceptable.
- b. Transom shall be 14 gauge, stainless steel metal and be reinforced and constructed the same as the front return panels, and as indicated on the architectural drawings.

- c. Provide post entrance jambs with 14 gauge stainless steel and through-bolt to the floor and to the reinforced header section with concealed tabs and hardware.

3. Cab Doors

- a. Standard 1" thick, 14 gauge hollow metal flush construction, reinforced for power operation and insulated for sound deadening. Finish hatch side with 16 gauge furniture steel and face cab side with antique or brushed brass as indicated on the architectural drawings.
 - (1) The door panels shall have no binder angles. All welds shall be continuous, ground smooth and invisible.



- (2) Drill and reinforce doors for installation of door operator hardware, door protective device, door gibs, etc.

4. Ceiling

- a. Refer to architectural drawings

D. Ventilation

1. The exhaust-type system shall include a blower driven by a direct connected motor and mounted on top of car with isolation to effectively prevent transmission of vibration to the car structure. The blower shall have not less than two (2) operating speeds. The ventilation system shall be sized to provide one air change per minute at low speed and 1.5 air changes per minute at high speed. The unit design and installation shall be such that the maximum noise level, when operating at high speed, shall not exceed 55 dBA approximately three feet (3') above the car floor. A three-position switch to control the blower shall be provided in the car station.
2. The exhaust blower shall start upon the pressing of a car or landing call button and shall stop at a predetermined time (approximately 2 minutes) after the car has answered the last registered call.

E. Protective Pads and Pad Hooks

1. Provide pad hooks at locations, as required, at top and bottom of side and rear walls and as indicated on the architectural drawings. Provide cutouts in pads for access to the cab operating and signaling devices, handrails or other projected apparatus. Pads shall be fire-resistant canvas with two (2) layers of cotton batting padding.
2. Provide two (2) sets of pads for the Elevators.

F. Lighting

1. Refer to Architectural and Electrical Drawings and specifications.
2. Four (4) recessed LED downlight fixtures

G. Flooring

1. Refer to Architectural Drawings

2.2 MANUFACTURERS

A. Manufacturers:

1. National Elevator Door and Cab
2. EDI/EDC
3. CEC



4. Or approved equal

PART 3 - EXECUTION

3.1 MATERIALS, WORKMANSHIP AND FINISHES

- A. All work shall conform to the Specification's details and, where not indicated, construction shall conform to recognized shop practice for high quality work.
- B. All work shall be executed by mechanics skilled in the trades and the Contractor shall not employ any careless or incompetent workmen on the work.
- C. All materials shall be the best of their respective kinds. All panels shall be stainless steel unless otherwise indicated.
- D. All ferrous metal, which is not exposed to view, shall be finished with one (1) coat of rust inhibitive primer and finished painted with two (2) coats of enamel prior to delivery.
- E. Flatness of Panels
 - 1. Panels, fascias, plate, stiffeners, and fabricated or laminated sheet items shall read as flat and free of bow or "oil canning" when installed. Exposed metal faces shall be of such flatness as to conform to the following: For rectangular areas with lengths or width up to and/or including 24", the maximum overall variation on plane between high and low point shall not exceed 1/32", and the maximum overall variation on plane between high and low points within a panel shall not exceed 1/16".
- F. Reinforcing
 - 1. Install reinforcement as required for hardware and necessary for performance requirements, sag resistance and rigidity.
- G. Corner Construction
 - 1. Maximum exposed edge radius at corner bends shall be 1/16". There shall be no visible grain separation at the bend.
- H. Continuity
 - 1. Maintain accurate relation of planes and angles, with hairline fit of contacting members.
 - a. Uniformity of Finish:
 - (1) Abutting ribbed members shall not have an integral color or texture variation greater than half the range indicated in the sample pair submittal.
- I. Fasteners



1. Conceal fasteners throughout. No exposed fasteners shall be used without specific approval of the City of New York unless specified herein.

3.3 INSPECTION

- A. Study the Contract Documents with regard to the work as specified and required so as to ensure its completeness.
- B. Examine surface and conditions to which this work is to be attached or applied, and notify the City of New York, in writing, if conditions or surfaces are detrimental to the proper and expeditious installation of the work. Starting the work shall imply acceptance of the surfaces and conditions to perform the work as specified.
- C. Verify, by measurements at the job site, dimensions affecting the work. Bring field dimensions, which are at variance with those on the accepted shop drawings to the attention of the City of New York. Obtain the decision regarding corrective measures before the start of fabrication of items affected.
- D. Cooperate in the coordination and scheduling of the work of this Section with the work of other sections so as not to delay job progress.

3.4 INSTALLATION

- A. Fabricate the elevator cabs using skilled workmen in strict accordance with the final accepted shop drawings and other submittals.
- B. Comply with the code, applicable seismic requirements, manufacturer's instructions and recommendations.
- C. Coordinate work with other trades for proper time and sequence to avoid construction delays and to ensure right-of-way of system. Use lines and levels to ensure dimensional coordination of the work.
- D. Provide and install fans, light fixtures, switches, controls, safety and maintenance and operating devices in strict accordance with the submitted wiring diagrams and applicable codes and regulations having jurisdiction.
- E. After installation, touch up in the field, surfaces of shop primed elements, which have become scratched or damaged.
- F. Lubricate operating parts of system as recommended by the manufacturer.

3.5 PROTECTION AND CLEANING

- A. Adequately protect surfaces against accumulation of paint, mortar, mastic and disfiguration or discoloration and damage during shipment and installation.



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- B. Upon completion, remove protection and thoroughly clean work and have it free from discoloration, scratches, dents and other surface defects.
- C. The finished installation shall be free of defects. Before final completion and acceptance of the building, repair and/or replace defective work to the satisfaction of the City of New York at no additional cost.

END OF SECTION 14 21 05



Section 14 21 23

ELECTRIC TRACTION ELEVATORS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. The following documents apply to all required work for the Project

1. The Contract Drawing
2. The Specifications
3. The General Conditions
4. The Addendum, and
5. The Contract City of New York Standard Construction Contract

B. Intent

1. This section includes electric traction passenger elevator.
2. The following outlines the scope of work covered in this Section:
This is a turn-key project requiring the complete modernization of two (2) passenger elevators in a duplex mode. The modernization includes and is not limited to the replacement of all major components i.e. hoist machines, car slings and platforms, controllers, wiring, motor drive fixtures and cabs.
3. Related equipment shall be designed, constructed, installed and adjusted to produce the highest results with respect to smooth, quiet, convenient and efficient operation, durability, economy of maintenance, and the highest standard of safety.
4. It is not the intent of these specifications to detail the construction and design of all parts of the equipment, but it is expected that the type, materials, design, quality of work and construction of each part shall be adequate for the service required, durable, properly coordinated with all other parts, and in accordance with the best commercial standards applicable and of the highest commercial efficiency possible.
5. Electric and magnetic circuits and related parts shall be of proper size, design and material to avoid heating and arcing, and all other objectionable effects which may reduce the efficiency of operation, economy of maintenance and/or net-useful life of the apparatus.
6. Minimum requirements for design, materials, etc., are for certain parts of the equipment. Equivalent requirements approved by the Commissioner shall apply to such parts as are of special design, construction or material and to which the specified requirements are not directly applicable. These minimum requirements as a whole shall be considered as establishing proportionate general minimum standards for all parts of the equipment.
7. The Commissioner may permit variations from the requirement of these specifications to permit use of the Contractor's standard equipment, provided such standard equipment is in every way adequate for the intended use and meets the full intent of these specifications. All such variations proposed by the manufacturer shall be called to the attention of the Commissioner and shall only be made if approved in writing.



8. General requirements for design, materials and construction are intended primarily to apply to the heavy-duty and important parts of the equipment specifically mentioned and to other parts of similar duty and importance. Less important and light-duty parts may be of the standard design, materials and construction provided that, in the opinion of the Commissioner, such standards are in accordance with the best commercial practice and are fully adequate for the purpose of use. All such variations shall be made only on the Commissioner's written approval.
9. All equipment and component parts installed, supplied or provided under this contract shall be manufactured and distributed by a third-party, non-installer company servicing the vertical transportation industry.
 - a. Apparatus shall conform to the design and construction standards referenced herein, and shall be rated the best commercial grade suitable for this application.
 - b. Equipment and component systems shall not employ any experimental devices or proprietary designs that could hamper and/or otherwise prohibit subsequent maintenance repairs or adjustments by all qualified contractors.
 - c. Manufacturers of the apparatus shall provide technical support and parts replacements for their equipment and component systems for a minimum of three (3) years, and issue such guarantee of support to the purchaser with written certification naming the City of New York of their product(s) to ensure the apparatus or systems remain maintainable regardless of who may be selected for future service.
10. All equipment provided shall be factory and field tested with a history of design reliability and net-useful life established.
 - a. Contractor must be able to demonstrate the apparatus to be installed has been used successfully in a substantially similar manner under comparable conditions.
 - b. If the apparatus proposed differs substantially in construction, material composition, design, size, capacity, duty or other such rating from the equipment previously used for the same purpose by the manufacturer, the Commissioner may reject the apparatus or require the vendor test and demonstrate the adequacy and suitability for this particular situation. Any necessary tests shall be performed at the sole expense of the Contractor with no prior guarantee of acceptance after the testing procedure.
 - c. The Contractor shall not use as part of the permanent equipment any experimental devices, proprietary design, components, construction of materials which have not been fully tried out in at least substantially similar or under comparable service, except as may be especially approved by the Commissioner. If any important equipment or devices to be used on this installation differ substantially in construction, materials, design, size, capacity or duty from corresponding items previously used for the same purpose by the manufacturer, they shall pass such tests as the Commissioner may require to fully show their adequacy and suitability. These tests shall be in addition to tests herein specified and shall be made at the expense of the Contractor.



11. Certain design limitations, tests, etc., are herein specified as a partial check of the adequacy of design, construction and materials used. These requirements do not cover all features necessary to ensure satisfactory and approved operation, etc., of the equipment.
12. It is understood, the entire system shall be designed, fabricated, modified and/or upgraded in full compliance with applicable local laws and code standards. The absence of a particular item or requirement shall not relieve the Contractor of the full and sole responsibility for such equipment, features and/or procedures.
13. The Specifications are intended to include all engineering, material, labor, testing, and inspections needed to achieve work specified by the Contract Documents. Inasmuch as it is understood that any incidental work necessary to complete the project is also covered by the Specifications, bidders are cautioned to familiarize themselves with the existing job site conditions.

C. Description

1. Work Included: The extent of the work is indicated on the drawings and within project specifications.
2. Work of this Section includes labor, materials, tools, equipment, appliances and services required to manufacture, deliver and install the units complete as shown on the drawings, as specified herein, and/or as required by job conditions.
3. The work and /or requirements specified in all sections is described in singular with the understanding that identical work shall be performed on all units or associated systems unless otherwise specified herein.
4. The work shall include, but is not limited to the following:
 - a. The complete modernization of two passenger elevators. The elevators have a capacity of 2,000 pounds and a rated speed of 200 FPM. The elevators operate as a duplex.

D. Abbreviations and Symbols

1. The following abbreviations, Associations, Institutions, and Societies may appear in the Project Manual or Contract Documents:

NYCBC	New York City Building Code
AIA	American Institute of Architects
ANSI	American National Standards Institute
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
AWS	American Welding Society
IBC	Inter National Building Code / NYC BC 2008



IEEE	Institute of Electrical and Electronics Engineers
NEC	National Electrical Code / as modified by NYC
NEMA	National Electrical Manufacturers Association
NFPA	National Fire Protection Agency
OSHA	Occupational Safety and Health Act

E. Codes and Ordinances / Regulatory Agencies

1. Work specified by the Contract Documents shall be performed in compliance with applicable Federal, State, and municipal codes and ordinances in effect at the time of Contract execution. The entire installation, when completed, shall conform with all applicable standards set forth in the latest editions of:
 - a. Local and/or State laws applicable for logistical area of project work.
 - b. New York Building Code – NYC BC 2008
 - c. New York City Elevator Code – Appendix K / Appendix K3
 - d. Safety Code for Elevators and Escalators, ASME A17.1 and all supplements.
 - e. Guide for Inspection of Elevators, Escalators, and Moving Walks, ASME A17.2.
 - f. Safety Code for Existing Elevators and Escalators, ASME A17.3.
 - g. Guide for emergency evacuation of passengers from elevators, ASME A17.4.
 - h. National Electrical Code (ANSI/NFPA 70) / As modified by NYC
 - i. American With Disabilities Act - Accessibility Guidelines for Building and Facilities.
 - j. ASME A17.5/CSA-B44.1 - Elevator and escalator electrical equipment.
2. The Contractor shall advise the Commissioner of pending code changes that could be applicable to this project and provide quotations for compliance with related costs.

F. Reference Standards

1. AISC - Specification for the Design, Fabrication and Erection of Structural Steel for Buildings.
2. ICC/ANSI A117.1 - Buildings and Facilities - Providing Accessibility and Usability for Physically Handicapped People.
3. ANSI/AWS D1.1 - Structural Welding Code, Steel.
4. ANSI/NFPA 80 - Fire Doors and Windows.
5. ANSI/UL 10B - Fire Tests of Door Assemblies.
6. APA - American Plywood Association.
7. ASTM A36 - Steel Supports and Reinforcement.
8. ASTM A139 - Electric-Fusion (ARC) Welded Steel Pipe (NPS 4 Inch and Over).
9. ASTM A276 - Stainless Steel Bars and Shapes.
10. ASTM A446 - Steel Sheet, Zinc Coated (Galvanized) by the Hot-Dip Process, Structural (Physical) Quality.
11. ASTM A786 - Rolled Steel Floor Plate.



12. ASTM B36 (36M) – Bronze Sheet (alloy) UNS No.C2800 (Muntz metal).
13. ASTM B151 - Nickel Silver Extrusions.
14. ASTM B221 - Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Shapes and Tubes.
15. ASTM B455 - Bronze Extrusions.
16. ASTM B632 - Aluminum-alloy Rolled Tread Plate.
17. NEMA LD3 - High Pressure Decorative Laminates
18. ANSI/IEEE - 519-1992
19. ANSI/IEEE - Guide for Surge Withstand Capability (SWC) Tests
20. ANSI Z97.1 – Laminated/Safety Tempered Glass

G. Definitions

1. Defective Work: Operation or control system failure, including excessive malfunctions; performances below specified ratings; excessive wear; unusual deterioration or aging of materials or finishes; unsafe conditions; need for excessive maintenance; abnormal noise or vibration; and similar unusual, unexpected, and unsatisfactory conditions.
2. Definitions in ASME A17.1 as amended or modified by New York City Building Code Chapter K to work of this Section.

1.2 PERMITS AND SUBMITTALS

A. Permits

1. Comply with the requirements of the General Conditions.
2. Prior to commencing work specified by the Contract Documents, the Contractor shall, at its own expense, obtain all permits or variances as may be required by the City of New York and provide satisfactory evidence of having obtained said permits and variances to the Commissioner.
3. File necessary drawings for approval by the City of New York and / or the Commissioner.
4. The Contractor shall undertake the necessary review and search procedure to identify open applications and/or outstanding violations for this property; and, close-out such applications and/or expunge such violations relative to the project scope as required for final acceptance by the City of New York.
 - a. Outstanding applications and violations must be indicated on the request for permit filing for this procedure to ensure such applications and/or violations are dismissed accordingly.
 - b. All relative costs shall be included in the base bid proposal with the understanding that corrective actions are covered under the specified scope of work.

B. Drawing Submittals

1. Prior to beginning the work, the Contractor shall submit and have approved copies of layout drawings, shop drawings and standard cuts. These items shall include:
 - a. A plan view of the hoistway and machine room
 - b. Elevation of the pit
 - c. All accessories.



2. The Commissioner shall pass on the submittals with reasonable promptness and the Contractor shall be responsible to ensure that there will be no delay in their work or that of any other trade involved.
3. Particular attention shall be given to land mark consideration.
4. Approved filing and submittal requirements must be completed before equipment and related materials are ordered.
5. Copies of Department of Buildings' permits will be posted at the job site with copies issued to the Commissioner.
6. Samples of wood, metal, plastic, paint or other architectural finish material applicable to this project shall be submitted for approval by The Commissioner.
7. It shall be understood that approval of the drawings and cuts by The Commissioner, shall be for general arrangement only and does not include measurements which are the Contractor's responsibility or approval of variations from the contract documents required by the City of New York.
8. The Contractor shall prepare a record log and maintain all submittals, shop drawings, catalog cuts and samples.

C. Samples

1. Comply with the requirements of the DDC General Conditions.
2. Submit the following

a. Samples

Item No.	Quantity	Size	Description
S1	3	12" x 12"	Exposed finishes as requested by Commissioner
S2	1	Actual	Each fixture as requested by the Commissioner
S3	1	Actual	Mitered, corner construction of entrance frame

The samples shall be:

- 1) Held on site after inspection and used as a standard for acceptance or rejection of subsequent production units.
 - 2) Labeled to identify their intended use and relation to the documents, e.g., car finishes, control panel, etc.
 - 3) Returned to the elevator contractor at the completion of the project. Subject to approval, where an item of equipment is a standard item, copies of the manufacturer's catalogue or brochure may be accepted provided that all dimensions and relevant information are shown in the catalogue or brochure.
- b. Shop Drawings - Submit computer generated layout drawings for approval. Include the following:
- 1) A listing of all components, devices and sub-systems including:



- a) Manufacturer and location of plant
 - b) Size and model number
 - 2) Machine room plan indicating:
 - a) Location of equipment
 - b) Service connections
 - c) Reactions
 - 3) Fully dimensioned hoistway plan and section of each unit indicating:
 - a) Platform (with cab), hoistway and entrance dimensions
 - b) All running clearances
 - c) Location of fixtures
 - d) Buffers, service ladders and pit reactions
 - e) Location of inserts
 - f) Rail Reactions
 - 4) Entrance details (as warranted)
 - 5) Sill support detail (as warranted)
 - 6) Fixture details including hall lanterns, hall pushbutton stations, car operating panel, etc.
 - 7) Wiring diagrams
 - 8) Insert diagrams
 - 9) Cab details including wall, ceiling, base, handrail, lighting, fixtures, front return and transom plans and sections
3. Calculations
- a. Rail loads
 - b. Pit and machine room reactions
 - c. Heat emissions in machine room
 - d. Electrical loads including, accelerating and running currents. Include all auxiliary loads.

D. Additional Submittals

1. Comply with the requirements of the General Conditions.
2. Submit the following:

a. Samples

Item No.	Quantity	Size	Description
S1	3	4" x 6"	Exposed finishes as requested by the Commissioner



S2

1

Actual

Each fixture as requested by
the Commissioner

E. Measurements and Drawings

1. Drawings or measurements included with the bidding material shall be for the convenience of the bidders only and full responsibility for detailed dimensions lies with the Contractor.
2. In the execution of the work on the job, the Contractor shall verify all dimensions with the actual conditions.
3. Where the work of the Contractor is to join other trades, the shop drawings shall show the actual dimensions and the method of joining the work of the various trades.

F. Changes and Extra Work

1. The City of New York may at any time make changes in the specifications, plans and drawings, omit work, and require additional work to be performed by the Contractor.

G. Keys

1. Upon the initial acceptance of work specified by the Contract Documents on each unit, the Contractor shall deliver to the City of New York, six (6) keys for each new general key-operated device that is provided in accordance with ASME A17.1, Part 8 standards as may be adopted and modified by New York City Building Code Chapter K.
2. All other keying of access or operation of equipment shall be provided in accordance with ASME A17.1 Part 8 as may be adopted and modified by New York City Building Code Chapter K.

H. Diagnostic Tools

1. Prior to seeking final acceptance of the project, the Contractor shall deliver to the City of New York any specialized tools required to perform diagnostic evaluations, adjustments, and/or programming changes on any microprocessor-based control equipment installed by the Contractor. All such tools shall become the property of the City of New York.
 - a. The City of New York's diagnostic tools shall be configured to perform all levels of diagnostics, systems adjustment and software program changes which are available to the Contractor.
 - b. The City of New York's diagnostic tools that require periodic re-calibration and/or re-initiation shall be performed by the Contractor at no additional cost to the City of New York for a period equal to the term of the maintenance agreement from the date of final acceptance of the project.
 - c. The Contractor shall provide a temporary replacement, at no additional cost to the City of New York, during those intervals in which the City of New York might find it necessary to surrender a diagnostic tool for re-calibration, re-initiation or repair.



2. Contractor shall deliver to the City of New York, printed instructions, access codes, passwords or other proprietary information necessary to interface with the microprocessor-control equipment.

I. Spare Parts

1. Provide the following spare parts under the terms of this agreement and store same in new approved cabinets to be located in the elevator machine room with provisions for locking and ventilation. All attic stock shall be of the same type, design and of the same manufacturer as the parts used as a result of the modernization.
 - a. 5 Ea. GAL, or approved equal hoistway door interlock assembly complete of each type used.
 - b. 2 Ea. GAL, or approved equal hoistway and car door hanger track assemblies complete on each type used.
 - c. 10 Ea. GAL or approved equal hoistway and car door rollers.
 - d. 10 Ea. GAL, or approved equal interlock release rollers.
 - e. 2 Ea. Door detector assemblies complete, including power supplies and control units.
 - f. 2 Ea. Car and counterweight guides complete.
 - g. 10 Ea. Roller wheels complete of each type used.
 - h. 2 Ea. Leveling unit and encoder unit complete.
 - i. 6 Ea. Hoistway limit switch.
 - j. 2 Ea. GAL, or approved equal car door clutch assembly of each type used.
 - k. 1 Ea. Load weighing device used.
 - l. 10 Ea. Push button assemblies. Mechanical for each type used including contact blocks.
 - m. 2 Ea. GAL, or approved equal gate switches.
 - n. 5 Ea. Toggle switch and keyswitch assemblies for each different type used.
 - o. 20 Ea. Keys for each different type used. (Extra above other requirements herein.)
 - p. 5 Ea. LED position indicators and drive boards for each different type used, including program chips.
 - q. 3 Ea. Stop switch.
 - r. 2 Ea. Printed circuit boards for each different type control system used (controller, dispatcher, encoder, door operator, telemetering, etc.)
 - s. 4 Ea. High and low voltage relays for controller for each different type used, including VVVF-AC drive.
 - t. 1 Ea. Remote fault monitoring computer system in motor room.
 - u. 1 Ea. VVVF-AC Drives complete of each type used.
 - v. 1 Ea. Monitors for each used, controllers and dispatcher.
 - w. 1 Ea. Brake coils for each type in use.
 - x. 1 Ea. Brake assemblies complete of each type in use.
 - y. 1 Ea. Chokes and filters of each different type used.
 - z. 2 Ea. Power supplies of each different type used.
 - aa. 2 Ea. Feedback tachometers of each type used.
 - bb. 2 Ea. Encoders for each type used.
 - cc. 25 Ea. Door gibs. Complete assembly.
 - dd. 2 Ea. Emergency lighting units complete of each different type used.



- ee. 1 Ea. Door operators of each type in use.
- ff. 1 Ea. Door motors of each type in use.
- gg. 2 Ea. Side and top Emergency exit switch assemblies.
- hh. 2 Ea. Top of car run boxes complete.
- ii. 12 Ea. Hall Lantern bell/gong.
- jj. 3 Ea. Hall Lantern covers of each type used.
- kk. 1 Set EEPROM chips for all elevator controls and dispatcher, final as built.
- ll. 2 Ea. Fans for cabs.
- mm. 2 Ea. Lobby panel components, switches (keyed and toggle), glass doors.

J. Wiring Diagrams, Operating Manuals and Maintenance Data

1. Comply with the requirements of the General Conditions.
2. Contractor shall deliver to the City of New York, four (4) identical volumes of printed information organized into neatly bound manuals prior to seeking final acceptance of the project.
3. The manuals shall also be submitted in electronic format on non-volatile media, incorporating raw 'CAD' and/or Acrobat 'PDF' file formats.
4. Manuals, as well as electronic copies, shall contain the following:
 - a. Step-by-step adjusting, programming and troubleshooting procedures that pertain to the solid-state microprocessor-control and motor drive equipment.
 - b. Passwords or identification codes required to gain access to each software program in order to perform diagnostics or program changes.
 - c. A composite listing of the individual settings chosen for variable software parameters stored in the software programs of both the motion and dispatch controllers.
 - d. Method of control and operation.
5. Contractor shall provide four (4) sets of "AS INSTALLED" straight-line wiring diagrams in both hard and electronic format in accordance with the following requirements:
 - a. Displaying name and symbol of each relay, switch or other electrical component utilized including identification of each wiring terminal.
 - b. Electrical circuits depicted shall include all those which are hard wired in both the machine room and hoistway.
 - c. Supplemental wiring changes performed in the field shall be incorporated into the diagrams in order to accurately replicate the completed installation.
6. Furnish four (4) bound instructions and recommendations for maintenance, with special reference to lubrication and lubricants.
7. Manuals or photographs showing controller repair parts with part numbers listed.

K. Instruction

1. Prior to seeking final acceptance of the project, the Contractor shall conduct an eight-hour instruction program on-site with building personnel selected by the City of New York.



2. The focus of the session shall include:
 - a. Instructions on proper safety procedures to utilize in assisting passengers that may become entrapped inside an elevator car.
 - b. Explain each control feature and its correct sequence of operation.
3. Control features covered shall include but, not be limited to:
 - a. Independent Service Operation
 - b. Attendant Service Operation
 - c. Emergency Fire Recall Operation - Phase I
 - d. Emergency In-car Operation - Phase II
 - e. Emergency Power Operation
 - f. Emergency Communications Equipment
 - g. Security Operating Features
 - h. Remote Monitoring/Controls.

1.3 QUALITY ASSURANCE

A. Materials and Quality of Work

1. All materials are to be new and of the best quality of the kind specified.
2. Installation of such materials shall be accomplished in a neat manner and be of the highest quality.
 - a. Should the Contractor receive written notification from the City of New York stating the presence of inferior, improper, or unsound materials or quality of installation, the Contractor shall, within twenty-four (24) hours, remove such work or materials and make good all other work or materials damaged.

B. Mechanical Design Requirements (General)

1. The following typical requirements shall apply to all parts of the work where applicable and are supplementary to other requirements noted under the respective headings.
 - a. All bearings, pivots, guides, guide shoes, gearing, door hanger sheaves, door hanger tracks and similar elements subject to friction or rolling wear in the entire elevator installation shall be accurately and smoothly finished and shall be arranged and equipped for adequate and convenient lubrication. Means shall be provided for flushing and draining the larger bearings and gear case. All oiling holes shall have dustproof, self-cleaning caps.
 - b. Bearings of governor and governor sheaves and important supporting bearings of other parts in motion when the elevator is traveling shall, unless otherwise specified or approved, be of ball or roller bearing type or shall have renewable linings of bronze or babbitt metal.
 - c. Bearings for brake levers and similar uses where the amount of movement under load is light and the wear negligible may be unlined.



- d. All plain bearings shall be liberally sized in accordance with the best commercial elevator usages which have proved entirely satisfactory on heavy-duty installations.
- e. Bearings of motors shall be arranged and equipped for adequate automatic lubrication. Ring or chain oilers, spring-fed grease cups and equivalent devices properly used in accordance with the best commercial elevator practice will be acceptable. Approved means shall be provided for visibly checking the amount of lubricant contained and for flushing and draining. Means shall also be provided for preventing leakage of lubricant when the reservoirs or grease cups are filled to proper levels.
- f. Ball and roller bearings shall be of liberal size and of a type and make which have been extensively and successfully used on other similar, heavy-duty elevator installations. They shall be fully enclosed. Loading, lubrication, support and all other conditions of use shall be in accordance with the recommendations of the bearing manufacturer based on previous extensive and satisfactory elevator usage.
- g. All armature spiders and similar items intended to rotate with their shafts shall be keyed and/or firm press or shrunk fit on the shafts. Set screw fastening will be permitted only for minor items not subject to hoisting loads and where means for field adjustment is required.
- h. All bolts used to connect moving parts, bolts carrying hoisting stresses and all other bolts, except guide rail bolts, subject to vibration or shock shall be fitted with adequate means to prevent loosening of the nuts and bolts. Bolts transmitting important shearing stresses between machine parts shall have tight body fit in drilling holes.
- i. All machine work, assembling and installing shall be done by skilled and experienced mechanics using first-class, modern equipment and tools. All work shall be thoroughly high grade in every respect. All parts will be manufactured to high precision standards so that wearing parts will be readily interchangeable with stock repair parts with a minimum of field fitting.
- j. All bearing and sliding surfaces of shafts, pins, bearings, bushings, guides, etc., shall be smoothly and accurately finished. They shall be assembled and installed in accurate alignment and with working clearance most suitable for the load, speed, lubrication and other conditions of use.
- k. Structural steel used for supporting and securing equipment and for the construction of car slings, etc., shall conform to the A.S.T.M. specification for Structural Steel for Buildings. Design stresses shall not exceed those specified in the local Building Code.
- l. Castings of motor frames, sheaves, gear casings, etc., shall be of the best quality metallurgically controlled, hard, close grained gray machinery cast iron, free from blow holes, sand holes, or shrinkage cracks, ground to remove overruns, sanded and machined so as to leave a finish suitable for its particular application.
- m. Surfaces of sheaves and brake drums shall be entirely free from defects and shall show a hardness of not less than 220 Brinell.

C. Electrical Design Requirements (General)

- 1. The following typical requirements shall apply to all parts of the work and are supplementary to other requirements noted under the respective headings.



- a. The design and construction of the motors shall conform to the requirements of these specifications and to the ASME Standards for Rotating Electrical Machinery with revisions issued to the first day when the work of this Contract was advertised.
- 1) Motors shall operate successfully under all loads and speeds and during acceleration and deceleration.
 - 2) Motors shall be designed for quiet operation without excessive heat.
 - 3) Insulation on motor coils and windings and on all insulated switch, relay, brake and other coils shall conform to the requirements for Class "H" insulation, as defined in ASME Standards for Rotating Electrical Machinery. All motors shall be impregnated twice.
 - 4) Switches, relays, etc., on controller, starter and signal panels and similar items on other parts of the equipment shall be the latest improved type for the condition of use. They shall function properly in full accordance with the requirements of the machines controlled and with the specified operating requirements of the elevator. Any of these parts showing wear or other injurious effects during the guarantee period to the extent that abnormal maintenance is required or indicated shall be replaced with proper and adequate parts by the Contractor.
 - 5) Contacts in elevator motor circuits which are intended to be opened by governors or other safety devices shall be copper to carbon or other approved non-fusing type.
 - 6) Where required, controllers and other component parts of the installation shall be labeled in accordance with the latest codes and standards as adopted and/or otherwise modified by New York City Building Code Chapter K.
 - 7) Electrical equipment, motors, controllers, etc., installed under this contract shall have necessary CSA/US or UL listing. Equipment shall be labeled or tagged accordingly.

D. Structural, Mechanical and Electrical Design Parameters

1. The mechanical and electrical systems and the building structure have been designed for the following design loads:
2. Power supply: 208 Volts, 60 Cycles, 3
3. Electrical Loads Per Elevator: - 13HP, Full Load Running, 129 Full Load Acceleration
4. Heat Release Per Elevator: 10,000 BTU/HR/Unit

E. Materials, Painting and Finishes

1. Two (2) coats of rust inhibiting machinery enamel shall be applied to exposed ferrous metal surfaces in the pit that do not have a galvanized, anodized, baked enamel, or special architectural finishes.
2. Two (2) coats of rust inhibiting enamel paint to the machinery located within the machine room and secondary level (where applicable) as well as to the machine room floors. Architectural metal surfaces of bronze or similar non-ferrous materials which are specified [to be refinished, re clad and/or provided new], shall be sufficiently clear coated so as to resist tarnishing during normal usage for a period of not less than twelve (12) months after final acceptance by the City of New York.



3. Identify all equipment including buffers, crosshead, safety plank, machine, controller, drive, governor, disconnect switch, etc., by 4" high numerals which shall contrast with the background to which it is applied. The identification shall be either decalcomania or stencil type.
4. Paint or provide decal-type floor designation not less than six (6) inches high on hoistway doors (hoistway side), fascias and/or walls as required by Code at intervals not exceeding 7'-0". The color of paint used shall contrast with the color of the surface to which it is applied.

F. Painting

1. Upon the completion of the project, the Contractor shall paint the Machine Room, the Pit and Storage Areas, floor, ceiling and walls and all elevator related equipment therein, including railings and metal stairways. Patch and repaint machine room and storage area walls, ceiling and floor in accordance with the following:
 - a. Prepare surfaces to receive paint; thoroughly clean of grime, grease, dirt, loose material and other substances that may interfere with proper adhesion of paint. Provide barrier coats over incompatible primers or remove and repaint. Paint dry surfaces only.
 - b. Remove or protect hardware, hardware accessories, plates, signs, trim for HVAC work, machined surfaces, lighting fixtures and similar items in place and not to be finish painted. Disconnect and move equipment adjacent to areas scheduled to be painted. Reposition and reconnect items and remove protection upon completion of each space.
 - c. Fill dents, cracks, hollow places, open joints, and other irregularities with a filler suitable for the purpose.
 - d. Prime surfaces as required not more than eight (8) hours after cleaning except as otherwise specified by the prime paint manufacturer.
 - e. Repaint machine room with an Elastomeric Acrylic Latex paint in a color as indicated below.
 - f. All paints shall be Benjamin Moore, Glidden or approved equal, brushed or rolled onto the surfaces. Spraying around the equipment shall not be permitted.

2. Paint Selection:

Ceilings & Upper Walls:	Regal Aquaglo #333 (Latex Semi-Gloss Enamel) Decorators White – 04, by Benjamin Moore, Glidden or approved equal
Walls:	Regal Aquaglo #333 (Latex Semi-Gloss Enamel) Cool Sky 2067 – 60, by Benjamin Moore, Glidden or approved equal
Floors:	Industrial Coating - M22 Battleship Gray – 75 by Benjamin Moore, Glidden or approved equal



Machines:	Industrial Coating - M26 Safety Blue – 35 by Benjamin Moore, Glidden or approved equal
Primers:	Latex Primer No. 023 "Fresh Start" by Benjamin Moore, Glidden or approved equal

G. Handicapped Requirements (ADAAG)

1. Locate door reopening devices at 5" and 29" above the finish floor when individual contact projection apparatus is employed.
2. Locate the alarm button and emergency stop switch at 35", and floor and control buttons not more than 48" above the finished floor. The alarm button shall illuminate when pressed for visual acknowledgement to user.
3. Provide raised markings in the panel to the left of the car call and other control buttons. Letters and numbers shall be a minimum of 5/8" and raised .03" and shall be in contrasting color to the call buttons and cover plate.
4. The centerline of the hall push button shall be 42" above the finished floor.
5. The hall arrival lanterns or cab direction lantern provided shall sound once for the "up" direction and twice for the "down" direction. Design and locate fixtures per Federal standards.
6. Provide floor designations at each entrance on both sides of jamb at a height of 60" above the floor. Designations shall be 2" high, raised .03" on a contrasting color background as selected by the City of New York.
 - a. Use cast metal plates and polished numbers secured with tamper-proof hardware.
7. Provide an audible signal to tell passenger that the car is stopping or passing a floor served by the elevator.
8. Provide signal controls for passenger entry/exit transitions per Federal standards.
9. Ensure sill-to-sill running clearances do not exceed 1-1/4" at all landings served.
10. Provide visual call acknowledgment signal for cab emergency intercommunication device.

H. Qualifications

1. Special experience requirements applicable to the contractor or subcontractor that will perform specific areas of work are summarized below. Such experience requirements are set forth in full in the Addendum to the General Conditions.
 - a. The contractor or subcontractor performing the work of this section must, within the last five (5) consecutive years prior to the bid opening, have successfully completed in a timely fashion at least three (3) projects similar in scope and type to the required work, based on architectural style, construction method and materials and age of buildings for this particular project. One such prior project of the three must have involved a landmarked building, as officially designated by the City, State or federal government.



1.4 DELIVERY, STORAGE, HANDLING AND COORDINATION

A. Delivery and Storage of Material and Tools

1. Comply with the requirements of the General Conditions.
2. Delivery, Storage and Handling:
 - a. Deliver materials to the site ready for use in the accepted manufacturer's original and unopened containers and packaging, bearing labels as to type of material, brand name and manufacturer's name. Delivered materials shall be identical to accepted samples.
 - b. Store materials under cover in a dry and clean location, off the ground.
 - c. Remove delivered materials which are damaged or otherwise not suitable for installation from the job site and replace with acceptable materials.
3. The City of New York shall bear no responsibility for the materials, equipment or tools of the Contractor and shall not be liable for any loss thereof or damage thereto.
4. The Contractor shall confine storage of materials on the job site to the limits and locations designated by the City of New York and shall not unnecessarily encumber the premises or overload any portion with materials to a greater extent than the structural design load of the Facility.

B. Work With Other Trades / Coordination

1. Coordinate installation of sleeves, block outs, equipment with integral anchors, and other items that are embedded in concrete or masonry for the applicable equipment. Furnish templates, sleeves, equipment with integral anchors, and installation instructions and deliver to Project site in time for installation.
2. Coordinate sequence of installation with other work to avoid delaying the Work.
3. Coordinate locations and dimensions of other work relating to elevators including pit ladders, sumps, and floor drains in pits; entrance subsills; machine beams; and electrical service, electrical outlets, lights, and switches in pits and machine rooms, secondary levels, overhead sheave rooms and hoistways.

C. Removal of Rubbish and Existing Equipment

1. On a scheduled basis, the Contractor shall remove from the job site all rubbish generated in performing work specified in the Contract Documents.
2. Any component of the existing elevator plant that is not reused under the scope of work specified in the Contract Documents shall become property of the Contractor and, as such, shall be removed from the premises at the Contractor's sole expense.
3. The Contractor agrees to dispose of the aforementioned equipment and rubbish in accordance with any and all applicable Federal, State, and municipal environmental requirements, and further accepts all liability that may result from handling and/or disposing of said material.

D. Protection of Work and Property

1. The Contractor shall continuously maintain adequate protection of all their work from damage and shall protect the City of New York's property from injury or loss arising out of this contract.



2. The Contractor shall make good any such damages, injury or loss, except such as may be directly caused by agents or employees of the City of New York.
3. The Contractor shall provide all barricades required to protect open hoistways or shafts per OSHA regulations. Such protection shall include any necessary guards or other barricades for employee protections during and after the modernization procedure.

E. Related Work by the Contractor:

1. The following requirements shall be applicable based on prevailing conditions at the site of work and/or mandated modifications for code compliance.
 - a. Installation of new electrical conduit and power feeders between the load side of existing and new main line disconnect switches and new elevator control equipment.
 - b. Provide hoist rope guards at the car and counterweight drop side of the hoisting machine sheave to prevent accidental contact with the hoisting ropes. The guard shall extend from the point where the hoisting ropes penetrate the machine room floor slab to a point beyond where the ropes contact the traction and deflector sheaves. The guards shall be constructed so as to conceal pinch-points between ropes and sheave grooves.
 - c. The top surface of any setback or projection in the hoistway that measures 2" or more in width shall be beveled at an angle of not less than 75 degrees from horizontal. Each bevel plate shall be constructed from prime painted 14 gauge cold-rolled steel and installed so as to conform with ASME A17.1 elevator safety code as modified by, and/or in addition to codes and standards accepted by NYCBC.
 - d. Provide the following signage, plates and tags:
 - 1) Provide access doors to the machinery space with signs that read "ELEVATOR MACHINE ROOM". Letters shall be not less than 2" high.
 - 2) Provide all required manufacturer data plates and installation-specific tags and signs of the types and styles containing information as required by applicable Codes and Standards as adopted and/or modified by New York City Building Code Chapter K.
 - e. Where the pit extends more than 3 feet below the sill of the pit access door, provide a permanent fixed metal ladder.
 - 1) Ladder shall extend no less than 48" above the sill of the access door. Handgrips shall extend from the ladder to a point no less than 48" above the sill of the access door where the ladder does not comply.
 - 2) The rungs shall be a minimum of 12" wide. Where prevailing conditions prevent a 12" wide rung, the rung may be reduced to no less than 9".
 - 3) The rungs shall be spaced 12" on center.
 - 4) A clear distance of no less than 4 1/2" from the centerline of the rungs and handgrips to the nearest permanent object in back of the ladder shall be provided.



- a) Where prevailing conditions prohibit the installation of the required ladder as specified above, the Contractor shall coordinate requirements necessary for compliance with the City of New York.
- f. Provide a standard railing conforming to Code on the outside perimeter of the car top on all sides where the perpendicular distance between the edges of the car top and the adjacent hoistway enclosure exceeds 300 mm (12 in.) horizontal clearance or as otherwise required by code.
- g. Provide necessary patching, repairing and installation of masonry and/or dry wall for smooth and legal elevator hoistways.
- h. Provide any required repair of smoke holes with subway grating covers in the machine rooms and/or secondary levels where applicable. All smoke ventilation provisions, including duct work, dampers, fans, fire control interfaces, in accordance with local codes, shall be reviewed for proper operation.
- i. Subsequent to the contract execution, the Contractor shall perform the following procedures and engineering tasks relative to balance loading of system and cab work included under base specification requirements and alternative/optional upgrades:
 - 1) Perform balance load testing to determine existing conditions and requirements applicable to new/modified equipment.
 - 2) Provide data for Purchaser and/or their agents to evaluate any limitations that may be placed on design/finish options due to prevailing conditions or total suspended loading.

F. Additional Related Work By The Contractor:

- 1. The following requirements shall be applicable based on prevailing conditions at the site of work and/or mandated modifications for code compliance.
 - a. Installation of new disconnect switch designed and located per local law requirements.
 - b. Installation of auxiliary power feed with related distribution panel(s) and disconnect(s) designed and located per local law requirements.
 - 1) Voltage shall be 110 VAC with one 15 Amp circuit breaker or fuse for lighting of each individual elevator car enclosure.
 - 2) Circuit breakers and/or fused disconnects shall be lockable in the "OFF" position in accordance with applicable code.
 - c. Installation of new permanent lighting fixtures with protective guards and 110 volt duplex GFI receptacles inside the machine room. Illumination shall be no less than 30 foot-candles at floor level. A light control switch shall be provided immediately adjacent to the machine room entrance door. Provide necessary receptacles as required by Contractor to supply power to auxiliary elevator equipment and/or remotely located monitors.
 - d. Provide each elevator pit with a 110 volt GFI duplex receptacle and a permanent lighting fixture equipped with protective guard. Illumination shall be no less than



- 10 foot-candles at pit floor level. A light control switch shall be provided and so positioned as to be readily accessible from the pit entrance door or ladder.
- e. Installation of hoistway and machine room smoke relief provisions in accordance with local laws.
 - f. Provide each machine room with a self-closing, self-locking access door. Locking means shall be spring-type arranged to permit the doors to be opened from the inside without a key.
 - g. Installation of fire emergency control interface provisions for automatic recall of the elevator(s) through operation of the fire detection system. Provisions shall be made for alternate designated fire recall landing with connection contingent on Codes recognized by the City of New York. The interfacing contacts shall be wired to an electrical junction box located inside each elevator machine room for connection to the elevator control systems by the Contractor. Each wire shall be clearly labeled with its control function. Coordinate the type of interface required for the specific elevator control apparatus with the Elevator Contractor.
 - h. Installation of HVAC provisions inside the machine room so as to maintain ambient temperature and humidity levels that are within the range specified by the microprocessor-control equipment manufacturers.
 - i. Provide a class "ABC" fire extinguisher in electrical machinery and control spaces. Locate the extinguisher in close proximity to the access door.
 - j. Provide necessary telephone wiring with connection to local telephone service for remote elevator monitoring and/or two-way voice emergency communications systems.
 - 1) Terminate the telephone wiring in junction boxes or standard phone jack terminals in the machine room.
 - 2) Coordinate the quantity and termination method of individual phone connections with the Contractor.
 - 3) Identify each phone line for connection by the Contractor to the appropriate elevator device(s).
 - 4) Telephone wiring, where required by applicable codes, shall be installed in conduit.
 - k. Sumps in pits where provided, shall be covered. The cover shall be level with the pit floor so as not to produce a tripping hazard.

1.5 GUARANTEE SERVICE

A. Contract Close-Out, Guarantee and Warranties

- 1. Comply with the requirements of the General Conditions.
- 2. Guarantee and Warranties:
 - a. Warrant the equipment installed under these specifications against defects in material and quality of installation and correct any defects not due to ordinary wear and tear or improper use or car which may develop within one year from the date each elevator is completed and placed in permanent operation and accepted by the City of New York.



- b. This warrantee shall be written and issued at the completion of each unit prior to final payment.

B. Contract Close-Out, Guarantee and Warranties

1. The Contractor agrees to certify that work performed in accordance with the Contract Documents shall remain free of defects in materials and quality of work for a period of one (1) year after final acceptance of the completed project, or acceptance thereof by beneficial use on a unit by unit basis, whichever occurs first.
2. The sole duty of the Contractor under this warranty is to correct any non-conformance or defect and all damages caused by such defect without any additional cost to the City of New York and within fifteen (15) days of notification.
3. The express warranty contained herein is in lieu of all other warranties, express or implied, including any warranty of merchantability or fitness for a particular purpose.
4. In the event the Contractor fails to fulfill its obligations defined herein, the City of New York shall have the express right to perform the Contractor's obligations and to charge the Contractor the cost of such performance or deduct an equal amount from any monies due the Contractor.

C. Guarantee Coverages

1. The following guarantee coverages apply:

a. Warranty Maintenance

- 1) Provide full comprehensive preventative maintenance services for a period of twelve (12) months after the final completion and acceptance of the project.
- 2) Guarantee maintenance and related services shall be provided.
- 3) Costs related to warranty maintenance shall be included in the base bid

The entire vertical transportation system(s) shall be maintained as hereinafter described, in accordance with the following detailed terms. Trained employees of the Contractor will use all reasonable care to keep the systems in proper adjustment and in safe operating condition, in accordance with all applicable codes, and ordinances. The requirements are specified in the singular with the understanding that all provisions shall be applicable to all units indicated unless otherwise specified.

- D. With the exception of only those items specifically identified as being performed by others, the contract specifications are intended to include all engineering, material, labor, testing, and inspections needed to achieve work specified by the contract. Inasmuch as it is understood that any incidental work necessary to execute the agreement is also covered by the contract specifications, the contractor is cautioned to familiarize himself with the existing equipment and job site conditions. Additional charges for material or labor shall not be permitted subsequent to execution of the Contractual Agreement for work, services or procedures covered herein.
- E. Maintenance coverage shall include, but is not limited to, preventive services, emergency call-back services, inspection and testing services, repair and/or direct replacement component renewal procedures.



- F. All scheduled work shall be performed during regular working hours of the regular working day of the elevator trade, 7:00 A.M. to 4:30 P.M., Monday through Friday, except union designated holidays.
- G. Scheduled repairs and/or other major adjustment procedures necessitating removal of an elevator for an extended period of time must be scheduled through the Commissioner.
1. The Commissioner retains the right to have such work completed during overtime hours with the understanding the Contractor shall pay for the regular labor portion and the Commissioner's extraordinary obligation is extra premium labor costs only.
 2. Emergency call-back services shall be provided twenty-four (24) hours per day, seven (7) days per week including weekends and holidays as further specified herein within (1) hour of call.
- H. The maintenance work shall be performed only by Qualified Technicians and Mechanics directly employed and supervised by the Contractor, who are experienced and skilled in maintaining vertical transportation units similar to those to be maintained under this Contract and shall not be assigned or transferred to any agent or subcontractor without the express consent of the Commissioner.
- I. It is mutually agreed that the Contractor shall not be under any obligation hereunder to make any repairs or replacements except those incidental to the normal operation of the machinery, and that the Contractor is not required under this Contract to make repairs or replacements necessitated by reason of malicious damage, fire, including non-elevator component electrical fire, which are the result of causes beyond Contractor's control.
1. It is mutually agreed that the Contractor shall make any and all repairs or replacements damaged by Contractor's improper repair, negligent or willful acts or omissions.
- J. The Contractor shall comply with all written recommendations of the Commissioner or independent inspectors, and insurance carriers employed by the city of New York. However, Contractor is not required under this Contract to install new attachments or parts other and different from those now constituting the equipment, as recommended or directed by The City of New York, the Commissioner or otherwise.
- K. A complete permanent record of inspections, maintenance, lubrication and call-back service shall be kept in the machine room or other designated location at the site of work. These records are to be available to Commissioner at all times. The records shall indicate the reason the mechanic was in the building, arrival and departure time, the work performed, etc., and these records will be property of the City of New York. Record keeping requirements shall include Contractor assigned maintenance personnel and scheduled preventive maintenance procedures, inspections, tests and third party assisted examinations.
- L. Contractor shall provide and maintain two (2) complete sets of updated electrical wiring diagrams and control schematic drawings on file with the building and they are to become the property of the City of New York for each group and/or individual system.



- M. Contractor shall provide scheduled systematic examinations, adjustments, cleaning and lubrication of all machinery, machinery spaces, hoistways and pits. The Contractor shall include a minimum of two (2) hours per month per unit that is to be dedicated to routine preventive maintenance.
- N. The Contractor shall during the course of all examinations remove and discard immediately all accumulated dirt and debris from the car tops and pit areas. Prior to each annual anniversary date of this Agreement, Contractor shall thoroughly clean down the entire hoistway of all accumulated dirt, grease, dust and debris each year.
- O. The Contractor shall keep the exterior of the machinery and any other parts of the equipment subject to rust properly painted, identified and presentable at all times. Motor windings and controller coils shall be periodically treated with proper insulating compound. The machine room floor and walls and all storage areas shall be painted annually with a good quality deck enamel.
- P. The Contractor shall conduct Safety, Efficiency and Maintained Conditions surveys, inspections and tests as follows:
 - 1. Semi-Annual quality control evaluations by a qualified supervisor to ensure and confirm the services and procedures as specified herein are properly executed relative to maintenance and performance standards for the systems serviced.
 - 2. Mandated inspections and testing in accordance with ASME A17.1-2003 Standards applicable per local law; filing of all procedures and payment of all relative fees per the City of New York and preparation of reports within the required time periods for the examination(s) rendered.
 - a. The City of New York will engage the services of a third-party qualified and certified agency for the sole purpose of witnessing mandated inspections and tests performed by the Contractor per NYC requirements. The Contractor shall conform to the third-party agency schedule and provide qualified labor at no additional charge to the City of New York.
 - 3. If applicable, independent testing of Fire Emergency Operating Systems and/or Emergency Power System tests in accordance with local law requirements and ASME standards.
 - 4. The City of New York retains the right to have these tests performed on a not-to-interfere basis at any hour of the day and any day of the week.
- Q. Provide emergency call-back service which consists of promptly dispatching qualified employees in response to requests from the City of New York, or designated representative, by telephone or otherwise, for emergency adjustment or minor repairs on any day of the week, at any hour, day or night. If repairs cannot be made immediately, the mechanic shall notify the City of New York's Representative as to the reason why and provide supplemental information regarding the restoration of services.



1. Call-back service in response to passenger entrapments shall be provided within one-half ($\frac{1}{2}$) hour during regular working hours and within one (1) hour during overtime periods.
 2. Call-back services for out-of-service units that have been secured by the City of New York's Representative shall be provided within one (1) hour during regular working hours and within one (1) hours between 6:00 a.m. and 8:00 a.m. and 4:30 p.m. and 6:30 p.m. Monday through Friday, except holidays.
 3. Call-back services for out-of-service units that have been secured by the City of New York's Representative shall be provided within two (2) hours at all other times not specified above in "1" or "2."
 4. Call-back services for non-essential system malfunctions that do not constitute an operational or other safety condition shall be provided during normal working hours of regular working days within two (2) hours of the request for service.
- R. Repairs, renewals, and replacements shall be made by the Contractor as soon as scheduled or other examinations reveal the necessity of the same, or when the Customer so advises the Contractor under the terms of this Agreement. It is understood and agreed that repairs, renewals, and replacements shall be made in accordance with high standards of preventive maintenance practice and that the repair and renewals of parts made shall be equal in design, workmanship, quality, finish fit, adjustment, operation and appearance to the original installation and that replacements shall be new and genuine parts equal to those parts supplied by the manufacturer of the original equipment or its successor, and shall apply to the repair, renewal, or replacement of all mechanical, electronic, and electrical parts, including but not limited to the following:
1. Automatic door systems, power operated door systems and manual door/gate systems complete.
 - a. Power operator and engagement linkages
 - b. Car door top track and hanger roller assemblies
 - c. Car door track liners, eccentrics, stops, bumpers and related operating mechanisms for multiple speed or multiple panel doors.
 - d. Car gates, bottom guides, retainers, fire stops, gibbs, entrance sills and threshold plates, gate handles and protection guards.
 - e. Electrical safety switches and activation mechanisms, door protective and/or retracting devices, and power door operators.
 - f. Electromechanical safety interlock assemblies, related operating mechanisms, clutch or other master system engaging devices, linkages, zoned locking devices, and self-closing devices.
 2. Car frame, platform and car safety devices complete.
 - a. Crosshead, stiles, hitch plates, tie rods, supports and related structures.
 - b. Car guides, shoes, stands, spindles, gibbs, rollers and tensioning devices.
 - c. Sub-platform, under car platform fireproofing, car sills with support cradles, load weighing devices, top/side exit access operating/safety hardware and electrical switches.
 - d. Car fans, blowers and cab ventilation systems.



3. Hoisting machinery, and rotating power drives with mounting supports and beams, raised platforms and weighted foundations and structures complete.
 - a. Geared traction, gearless traction and related systems complete.
 - b. Worms, gears, shafts, couplings, drive sheaves, deflector sheaves, 2:1 sheaves, bearings, support/mounting apparatus, brake assembly, rotating elements and all associated castings, guards, retainers and hardware.
 - c. Integral and free standing brake units, drums, discs, pulleys, shoes, linings, pads, pins, sleeves, plungers, coils, caps, adjustment devices and hardware complete.
 - d. AC and DC motors, motor generators, rotating regulators and exciters; armatures, field coils, pole pieces, interpoles, commutators, brush riggings, brush holders, carbon brushes, stator windings, fan or other ventilation mechanisms, bearings, bushings, shafts, caps, packings, seals, junction boxes, leads, connectors and related wiring.
4. Controls, selectors, power drives, encoding devices with related wiring, conduit and circuitry complete.
 - a. Relays, contactors, switches, capacitors, resistors, fuses, circuit breakers, overloads, power supplies, regulators, tach generators, arc shields, shunts, holders and hardware.
 - b. Circuit boards, transmitters, encoders, transformers, rectifiers, transistors, solid state switching devices, insulators, timing devices, suppressors, and computer apparatus.
 - c. Filters, fans, blowers, wiring, studs, terminal blocks, plug connectors, CRTs or other diagnostic devices, keyboards and printers.
 - d. Cabinets, isolation transformers, chokes, diagnostic tools, status indicators, solid state and hard wire circuitry.
5. Car safety systems.
 - a. Overspeed governors and electromechanical safety devices, wire ropes and tensioning devices with related hitch and connection apparatus complete.
 - b. Car safety devices, drums, rods, linkages, clamps and hardware.
6. Hoistway and pit equipment.
 - a. Guide rails, fishplates, brackets, inserts and related hardware to include jack bolts or other special mechanisms for mounting and alignment.
 - b. Wire ropes, chains and cables used for suspension, compensation, safety and selector encoding with related hitch and connection hardware complete.
 - c. Corridor entrance top track and hanger rollers, toe guards, fascias, dust covers, sills, stops, bumpers, eccentrics, retainers, and bottom guides.
 - d. Overhead machine room, secondary and 2:1 wire rope sheaves, shafts, bearings, bushing, seals, mounting supports, lubrication devices, guards and hardware complete.



- e. Electrical wiring and conduit, electrical traveling cables, electrical limits, slow-downs, activating cams, switches, vanes, inductors, tapes, readers, leveling and encoding systems complete with all related hardware and wiring.
 - f. Compensation sheaves, shafts, frames, guides, switches, rollers, cams, guards, "S" hooks, guidance systems and all related hardware.
 - g. Counterweight assemblies, guides, rollers, stands, strike plates, safeties and hitch devices.
 - h. Car and counterweight buffers, stands, strikes, blocking, platforms, extension devices, mounting hardware and appurtenances
 - i. Pit safety switches, cable tensioning devices, access ladders, light switches, lighting assemblies, bulbs and guards.
- 7. Operating and signal fixtures with electrical wiring.
 - a. Car operating panels, push buttons, stop switches, audible signals, keyed or other control switches, visual signals, jewels and indicators with electrical wiring.
 - b. Car position indicators, riding lanterns, signal annunciators, visual and audible signals complete.
 - c. Corridor push button stations, hall lanterns, hall position indicators, keyed switches, access controls, electrical wiring and traveling cables complete.
 - d. Emergency lighting systems, emergency communication devices, and signal systems complete
 - e. Corridor and lobby fixtures with remote controls and operational monitoring devices, starter panels, emergency power selectors, telltale panels, location indicators, security controls and monitors.
- S. Maintenance requirements, in addition to scheduled and emergency repairs, renewals and testing, shall include but are not limited to:
 - 1. Examination of wire ropes to maintain proper tensioning and legal bottom clearances on a monthly basis for shortening and adjusting ropes as required and performance of all reshackling procedures per ASME A17.1 standards and local laws in conjunction with maintenance of related slack cable devices, machine limits or other safety equipment.
 - 2. Examination, repair and replacement of all electrical wiring, traveling cables, conduits, connections and related apparatus extending from the main line power supply switch in the machine or other power supplies in hoistways.
 - 3. Maintenance of pit, hoistway and machine room lighting to include relamping, wiring and switch controls.
 - 4. Mandated inspections and relative labor requirements for third party examinations and/or test procedures as approved by the purchaser.
- T. The control system shall be maintained to provide smooth acceleration and retardation. Contractor must maintain elevators in accordance with the original equipment manufacturer (O.E.M.) design performance specifications (including floor-to-floor times, door timing, rated



speed, group supervisory system, etc.). The door close pressure must never exceed 30 pounds. The following performance schedule shall be adhered to:

1. Contract Speed: The contract speed shall be provided for up direction travel with full-capacity load in the elevator car. The speed in either direction under any loading condition shall not vary more than 3% of the contract speed.
2. In accordance with the ASME A17.1 Code, the elevators shall be maintained and adjusted to safely lower, stop and hold the car with a load of 125% of the rated capacity.
3. Leveling Accuracy: The elevator shall be adjusted to provide accurate leveling within $1/4" \pm$ of the floor level without releveing regardless of load.
4. Door Operating Times:

Door Type	Opening	Closing
Two Speed Side Opening	2.5 sec.	3.0sec.
Door dwell time for hall calls:	4.0 sec with Advance lantern signals	
Door dwell time for hall calls:	5.0 sec without Advance lantern signals	
Door dwell time for car calls:	3.0 seconds	
Reduced non-interference dwell time:	1.0 seconds.	

5. Floor to Floor Time (Flight Time): 10 sec.

PART 2 - PRODUCTS

2.1 Project Outline Scope of Work

A. PE1 and PE2- Passenger Public Group

1. Complete modernization of two (2) existing geared traction elevators functioning in a duplex mode, maintaining present design ratings and floors served. Provide new gearless AC Hoist Machines, controllers, cabs, hoistway/car door operating equipment and operators, platforms/slides/safeties, fixtures, etc. and as further specified. Note: elevators to be modernized one at a time.

2.2 General Description

A. PE-1 and PE2: (New York City I.D. No's. 4P16 and 4P15)

1. Quantity-	Existing- Two (2)
2. Type -	Passenger
3. Capacity (lbs.) -	2,000
4. Speed (fpm) -	200
5. Travel -	Existing
6. Floors Served -	B, 1-4 (Five)



7. Front -	All
8. Operation -	New duplex automatic push button
9. Control -	New Micro Processor
10. Hoist machine	New gearless PMAC machine
11. Number of Push Button Risers	One (1)
12. Platform Size -	New
13. Guide Rails -	Existing (side post planed steel tees)
14. Buffers	New
15. Cab Enclosure -	New as specified
16. Car Door Size -	3'-4" x 7'-0"
17. Hoistway Door Size -	3'-4" x 7'-0"
18. Door Operation -	Two speed, side slide
19. Fixture and Signals -	New as specified
20. Machine Type -	New AC PM gearless traction
21. Machine Location -	Overhead -Attic Level
22. Counterweight -	Existing (rebalance)
23. Sheaves -	New
24. Wire Rope -	New
25. Wiring -	New
26. Sling & Platform -	New
27. Car Safety -	New
28. Governors -	New
29. Hoistway Door Panels -	Existing - Retain
30. Hoistway Door Frame Assemblies -	Existing - Retain
31. Motor Drives -	New VVVF-AC
32. Power Supply -	208 volts, 3 Phase, 60 Cycle
33. Overspeed Protection-	New

2.3 MANUFACTURERS

A. Equipment Manufacturers

1. Manufacturers:

- a. Controller - Computerized Elevator Controls, GAL (GALaxy), Motion Control Engineering, Elevator Controls Corporation, C&L Controls, Elevator Systems, Inc., Smartrise (low speed/rise applications - simplex/duplex) Virginia Controls (low speed/rise applications - simplex/duplex) or approved equal
- b. Tracks, Hangers, Interlocks and Door Operators - G.A.L., E.C.I. Moline Accessories Corporation or approved equal
- c. Fixtures - G.A.L., Adams, EPCO, Monitor, E-Motive USA, C.E. Electronics, Innovation, PTL, MAD or approved equal
- d. Door Protective Device - Janus, Adams, G.A.L., T.L. Jones, Tri-Tronics or approved equal
- e. Machines - Hollister-Whitney, Torin, Imperial or approved equal
- f. Motors - Imperial Electric, General Electric, Baldor, Reuland Electric or approved equal
- g. VVVF AC Power Drives - Mitsubishi, MagneTek, Yaskawa, TorqMax or approved equal



- h. Electrical Traveling Cables – Draka, James Monroe, or approved equal
- i. Guide Shoes/Rollers – ELSCO, Hollister Whitney, Elpro or approved equal
- j. Wire Ropes - Paulsen, Bethlehem, Wayland, Draka, Brugg or approved equal
- k. Intercommunications/Telephones - Telekone, Ring Systems, or approved equal.

2.4 SYSTEMS AND COMPONENTS

A. Control Equipment

- 1. Provide a microprocessor-based elevator control system.
- 2. Provide a standalone dispatcher with dedicated power and circuit breaker.
- 3. Digital logic shall calculate optimum acceleration, deceleration and velocity patterns for the car to follow during each run.
- 4. Closed-loop distance and velocity feedback shall monitor the actual performance of the elevator car with the desired speed profile.
- 5. System operating software shall be stored in non-volatile, electrically programmable read only memory (EPROM), electrically erasable and programmable read only memory (EEPROM), or flash read only memory (flash ROM).
 - a. Elevator control relays, contactors, switches, capacitors, resistors, fuses, circuit breakers, overload relays, power supplies, circuit boards, static motor drive units, wiring terminal blocks and related components shall be totally enclosed inside a free-standing metal cabinet with hinged access doors.
 - b. Mechanical ventilation or air conditioning of the cabinet shall be provided and shall be adequate to dispose of the full load heat losses without exceeding 40° C (104° F) ambient temperature.
 - 1) Where integral air conditioners are not employed, control equipment cabinets shall be provided with forced air ventilation to prevent overheating of the electrical components housed therein.
 - 2) Where integral air conditioners are employed, control equipment cabinets shall be “NEMA 12” rated with no ventilation fans or slots.
- c. All electrical wiring inside the control equipment cabinet shall be performed in a neat manner with field wiring terminated at stud blocks provided inside the control cabinet.
- d. Each wiring terminal shall be clearly identified according to the nomenclature used on the “as built” wiring diagrams. No more than two (2) field wires may be connected to any single terminal stud.
- e. Spare wires shall be tagged according to their point of termination, bundled, and placed at the bottom of the control equipment cabinet.
- f. Each electrical component within the cabinet shall be permanently identified with symbols, identical to those used on the “as-built” wiring diagrams.
- g. A data plate that indicates the edition of the Code in effect at the time of installation and/or alteration shall be provided in accordance with applicable code and requirements of ASME A17.1 Code. The data plate shall be in plain view and securely attached on the mainline disconnect or on the controller.



- h. Control equipment shall comply with requirements of all applicable Sections of the ASME A17.1 Code as approved and adopted by the City of New York.
- i. The manufacturer's standard on-board "LCD" display shall be incorporated on the main processor board and/or otherwise incorporated in the controller cabinet. The "LCD" shall be capable of providing alpha-numeric characters to view the operational status of the elevator and/or group functions depending on the application. The display shall provide the user with necessary information for troubleshooting and reprogramming of the basic system parameters.
 - 1) Where the "LCD" is not an integral part of the controller and troubleshooting/reprogramming requires the use of a separate tool, the tool shall be maintained in the machine room and accessible to service personnel. This tool, along with all technical documentation for the correct use of the tool, shall remain the property of the City of New York.
 - 2) Password protection of critical programming features is required to prevent accidental changes to life-safety and other non-typical control settings.
 - 3) Where a separate dispatch or group control panel is provided, a separate "LCD" display shall be provided to view group functions.

6. Provide for future emergency power operation.

B. Gearless Elevator Hoisting Machine

- 1. Provide a permanent magnet synchronous motor (PMAC) gearless traction machine, specially designed and manufactured for elevator service. The machine shall have high starting torque and low starting current, rated for 50⁰ C (90⁰ F) continuous operation. Design machine to operate at 210 per hour without overheating.
 - a. The traction driving sheave and brake drum shall be cast integral and bolted securely to the main armature shaft.
 - b. Securely mount the machine frame, including motor fields, bearing stands and brake on a heavy steel bedplate.
 - c. The armature shaft shall be supported in ball or roller type bearings.
 - d. The driving sheave shall be cast from the best grade of metal with a Brinnell hardness of 215 to 230 and shall be machined with grooves, providing maximum traction with a minimum of rope and sheave wear.
 - e. Ensure that adequate ventilation of internal stator windings and rotating element is provided to prevent overheating with thermal overload protection. (Constant velocity fan for constant cooling.)
 - f. Equip housing with eyebolt(s) for lifting.
 - g. Provide a spring applied and electrically released electro-mechanical brake.
 - h. Swivel type brake shoes shall be applied to the braking surface simultaneously and with equal pressure by means of helical compression springs.
 - i. Design the brake for quick release to provide smooth and gradual application of the brake shoes.
 - j. Provide 14 gauge hoist cable guards at the car-drop and counterweight-drop side of the machine sheave.



- 1) Guards shall cover cables from the point of slab penetration to the point where the hoist cables contact the sheave.
 - 2) Guards shall prevent access to cables at pinch points.
 - 3) Guards shall have no sharp edges.
 - 4) Guards shall be properly mounted to prevent vibration.
- k. Provide a raised machine arrangement so that the deflector sheave is located above the machine room slab. Provide adequate steel blocking members to support the machine assembly.
- 1) Provide service platforms, grating, handrails, ladders and required accessories to service and maintain the hoisting machines.
- l. Where a secondary level exists, span the distance between the car and counterweight with an accurately grooved deflector sheave mounted in the secondary level.
- m. Provide a sheave guard to prevent hoisting rope from jumping off grooves and to prevent possible entrapment on both sides of the floor penetrations.
- n. Design and construct the hoisting machine based on passenger elevator cab enclosure weight as specified and as shown on the architectural drawings.

C. VVVF AC Drive

1. Provide a solid-state, variable voltage, variable frequency (VVVF), 3-phase AC hoist motor drive system as part of the microprocessor-based equipment.
 - a. VVVF drive system shall be a low-noise, flux-vector inverter device.
 - b. Include a digital LED readout and touch-key pad to facilitate software parameter adjustments, monitor system operation and display fault codes.
2. The drive shall utilize a 3-phase, full wave rectifier and capacitor bank to provide direct current power for solid-state inversion.
3. The inverter shall utilize IGBT power semiconductors and duty cycle modulation fundamental frequency of not less than one kilohertz to synthesize 3-phase, variable voltage variable frequency output.
4. The system shall be designed and configured with the following countermeasures for noise generated by the pulse-width modulated (PWM) inverters.
 - a. Control of radiated noise via inverter and/or motor cables.
 - b. Conducted noise through power lines.
 - c. Induction noise and ground noise.
5. Inverter shall be encased in metal and independently grounded.
6. A noise filter for the input power line shall be provided to prevent penetration into radios, wireless equipment and smoke detectors.
7. A 3% three-phase line reactor shall be provided on the power system rated at the utility voltage input to the drive and sized for the rated drive current.
8. Provide interconnection wiring and ground cables in accordance with the manufacturer's design requirements.



9. The drive shall:

- a. Be configured as a complete digital drive system.
- b. Utilize two (2) microprocessors - one for power conversion circuitry a 16/32 BIT Microprocessor controlled PWM output and one for drive signal control circuitry.
- c. Be totally software configurable through high level language.
- d. Interface with external equipment/signals via either discrete local I/O connections or high speed Local Area Network (LAN).
- e. Provide fully programmable and adjustable carrier frequency to 16KHz.
- f. Be located within the limits of the control cabinet (where system size allows) or separately mounted in an appropriate chassis with hinged swing-out doors with clearances equal to the cabinet width dimensions.
- g. Output frequency of 0-500 Hz.
- h. Provide programmable linear or S-curve acceleration.
- i. Provide free run or programmable linear or S-curve deceleration.
- j. Have controlled reversing.
- k. Have a minimum of 15 preset speeds.

10. Operating and Environmental Conditions:

- a. Have a service factor of 1.0.
- b. Rated for continuous duty.
- c. Humidity - 90% rated humidity non condensing.
- d. Altitude - 3300 feet without derate.
- e. Cooling - forced air when required.
- f. Temperature - 0-40°C (104°F) for UL Listing.
- g. Digital display for:
 - 1) Running - output frequency, motor RPM, output current, voltage (Selectable).
 - 2) Setting - Parameters values for setup and review.
 - 3) Trip - separate message for each trip, last 30 trips to be retained in memory.

11. Protective Features:

- a. Motor overspeed.
- b. Adjustable current limit.
- c. Isolated control circuitry.
- d. Digital display for fault conditions.
- e. Selectable automatic restart at momentary power loss.
- f. Manual restart.
- g. Over/Under Voltage.
- h. Line to line and line to ground faults.
- i. Over-temperature.

12. The system shall provide full regenerative capabilities to control overhauling motor speed and reduce hoist motor deceleration time by allowing overhaul power to be discharged back into the power lines.



- a. The regenerative section may be an integral part of the drive or a stand alone unit.

D. Sheaves

1. Provide new hoisting machine wire rope deflector sheave(s) with related apparatus and structural mounting supports for all elevators.
 - a. Locate and size new sheave to maximize use of available clearances maintaining the present car and counterweight hitch drops.
 - b. New support bearings shall be of a roller type designed for a minimum of twice the total load calculation.
 - c. The sheaves shall be equipped with suitable lubrication devices.
 - d. Required new mounting beams and structural supports shall be interfaced with existing building structures as may be modified under the terms of this contract for the new design rated loading where applicable.
 - e. The deflector sheave shall be provided with means to guard the hoist ropes so they do not jump out of their respective grooves during a slack rope condition.
 - f. The new deflector sheaves shall be located in the machine room.

E. Overspeed Governor

1. Provide a speed governor, located overhead, to operate the car safety.
 - a. Maintain the proper tension in the governor rope with a weighted tension sheave located in the pit.
 - 1) Springs used to develop the tension are not acceptable.
 - b. Provide rope grip jaws, designed to clamp the governor rope to actuate the car safety upon a predetermined overspeed downward.
 - 1) Rope grip jaws directly coupled to the governor mechanism so as to float with governor movement shall not be permitted.
 - 2) The centrifugal type governor shall trip and set rope jaws within 60 degrees of governor sheave rotation after reaching rated tripping speed.
 - c. Design the governor rope tripping device so that no appreciable damage to or deformation of the governor rope shall result from the stopping action of the device in operating the car safety.
 - d. Provide an electrical governor overspeed protective device which shall remove power from the driving machine motor and brake before or at the application of the safety.
 - 1) The setting for the overspeed switch shall be as prescribed in the ASME A17.1 Safety Code.
 - 2) Locate and enclose the switch to insure that excess lubrication will not enter the switch enclosure.
 - 3) Overspeed switch shall operate in both direction of travel on systems employing a static power drive unit.



- e. Seal and tag the governor with the running speed, tripping speed and date last tested.
- f. Governor shall be manufactured by Northern Elevator or approved equal.

F. Automatic Leveling/Re-leveling and Positioning Device

- 1. Equip the elevator with a floor leveling device which shall automatically bring the car to a stop within 1/4" of any floor for which a stop has been initiated regardless of load or direction of travel.
- 2. This device shall also provide for releveling which shall be arranged to automatically return the elevator to the floor in the event the elevator should move below or above floor level in excess of 1/4".
- 3. This device shall be operative at all floors served and whether the hoistway or car door is open or closed provided there is no interruption of power to the elevator.

G. Load Weighing Device

- 1. Provide means to measure the load in the car within an accuracy of $\pm 4\%$ of the elevator capacity.
- 2. Provide one of the following types of devices:
 - a. A device consisting of four strain gauge load cells located at each corner of the car platform and supporting a free floating car platform and cab with summing circuits to calculate the actual load under varying conditions of eccentric loading.
 - b. A strain gauge device located on the crosshead, arranged to measure the deflection of the crosshead and thus determine the load in the car.
 - c. A device consisting of four strain gauge load cells, supporting the weight of the elevator machine with summing circuits to calculate the actual load under varying conditions of load.
 - d. A device to measure the tension in the elevator hoist ropes and thus determine the load in the car.
- 3. Arrange that the output signal from the load weighing device be connected as an input to the signal and motor control systems to pre-torque of the hoisting machine motors where applicable.
- 4. Provide audible and visual signals in connection with the load weighing device when used as an "overload" device.

H. Ascending Car Overspeed Protection Device

- 1. Provide a device designed to prevent an ascending elevator from striking the hoistway overhead structure.
- 2. The device shall decelerate the car with any load up to the rated capacity by applying an emergency brake.



- a. The device shall detect an ascending car overspeed condition of not greater than 10% higher than the speed that the car governor is set to trip.
- b. The device, when activated, shall prevent operation of the car until the device is manually reset.
- c. The device shall meet the requirements of the ASME A17.1 Safety Code as may be modified by the New York City Building Code Chapter K.

I. Unintended Car Movement Protection Device

1. Provide a device to prevent unintended car movement away from the landing when the car and hoistway doors are not in the closed and locked.
 - a. The device shall prevent such movement in the event of failure of:
 - 1) The electric driving machine motor
 - 2) The brake
 - 3) The machine shaft or shaft coupling
 - 4) Gearing
 - 5) Control system
 - 6) Any component upon which the speed of the car depends
 - 7) Suspension ropes and the drive sheave of the traction machine are excluded.
 - b. The device shall prevent operation of the car until the device is manually reset.
 - c. The device shall meet the requirements of the ASME A17.1 Safety Code as may be modified by New York City Building Code Chapter K.

J. Emergency Brake

1. Provide a mechanical device, independent of the normal braking system that will stop the elevator should it overspeed or move in an unintended manner.
2. The device used may be arranged to apply force to the car or counterweight rails, suspension or compensation ropes, drive sheave or brake drum.
3. The emergency brake shall be provided with a marking plate indicating the range of total masses (car with attachments and its load) for:
 - a. The range of speeds at which it is set to operate.
 - b. The criteria such as rail lubrication requirements that are critical to the performance.

K. Machine Beams (Existing)

1. Provide additional support beams, angles, plates, bearing plates, blocking steel members, etc., to support new machine, governors, dead end hitches, deflector and overhead sheaves from existing machine beams where applicable.
2. Contractor shall verify adequacy of all existing supports scheduled to be reused and report same to the City of New York.



L. Governor Rope Tension Assembly

1. Provide a governor rope tension assembly.
 - a. Maintain the proper tension in the governor rope with a weighted tension sheave located in the pit.
 - 1) Springs used to develop the tension are not acceptable.
 - b. The sheave shall be of proper diameter and set directly plumb with the governor rope drop to prevent the rope from pulling off of the sheave at an angle.
 - c. Lubrication fittings shall be provided on the assembly.
 - d. The assembly shall have necessary rope guards to prevent accidental contact of the rope/sheave by service personnel and to prevent the governor rope from jumping off of the sheave.
 - e. Design governor to prevent false tripping because of conditions caused by rope dynamics.

M. Car and Counterweight Buffer

1. Provide buffer with necessary blocking and horizontal steel braces under the car and counterweight.
2. Provide spring type buffers for elevators with operating speeds of up to and including 200 fpm.
 - a. The buffers shall comply in all respects with the requirements of the ASME Code.
3. The buffer shall be tested by a qualified testing laboratory and approved as complying with the ASME Code.
4. Provide a permanent buffer marking plate which indicates the manufacturer's name, identification number, rated impact speed and stroke.
5. Provide a permanent data plate in the vicinity of the counterweight buffer indicating the maximum designed counterweight runby in accordance with ASME A17.1 as may be modified by, and/or in addition to codes and standards accepted by the City of New York.

N. Counterweight Assembly (Reuse)

1. The existing counterweight assembly shall be refurbished to as new condition and reused.
2. Individual counterweight frame members shall be inspected for any indication of damage and to determine if the overall assembly is twisted, racked, or otherwise distorted.
 - a. All fastenings between counterweight frame members shall be individually examined, tightened and if necessary renewed.
 - b. In case any of these conditions are found to exist, the Contractor shall immediately inform the Commissioner about the exact nature of the problem and undertake



whatever corrective action the Commissioner may deem appropriate to remedy the situation.

3. The amount of filler weight placed within the counterweight frame shall be adjusted so the weight of the entire counterweight assembly is equal to that of the renovated elevator car, plus 40-42% of its rated loading capacity.
 - a. Filler weights shall be held securely in place at all times with tie rods passing through holes in both the weights and the counterweight frame with tie rods secured on each end with double lock nut and a cotter pin arrangement.

O. Hoist Ropes

1. New pre-formed traction steel wire rope, specifically constructed for elevator applications, shall be provided for suspension of the elevator car and counterweight assembly.
 - a. Fastenings shall be accomplished by use of individual tapered rope sockets with adjustable shackles.
 - b. General design requirements for rope shackles and the method of securing wire rope shall conform with ASME A17.1 elevator safety code as modified by, and/or in addition to codes and standards accepted by the City of New York.

P. Governor Rope

1. New pre-formed wire rope specifically constructed for elevator applications, shall be provided for governor ropes.
2. Rope shall be traction steel or iron in accordance with OEM design requirements.
3. Rope diameter and method of fastening shall be in accordance with ASME A17.1 Safety Code as adopted and/or otherwise modified by New York City Building Code Chapter K.

Q. Guide Rails (Reuse)

1. Car and counterweight guide rails, fish plates, rail brackets, backing support and related attachments shall be inspected to determine if unfavorable conditions exist that diminish the structural integrity of any component.
 - a. In the event substandard conditions are disclosed by means of this inspection, the Contractor shall immediately inform the Commissioner as to the exact nature of said problems and then undertake whatever repairs and/or replacements the Commissioner may deem appropriate to remedy the situation.
2. Each stack of guide rails shall be individually examined to determine if excessive compression has occurred from building settlement.



- a. In the event such conditions are found to exist, each affected stack shall be cut off enough to relieve pressure.
 - b. Jacking bolts shall be provided underneath each stack of both car and counterweight guide rails.
3. Each stack of guide rails shall be realigned so that total deviation from plumb in any direction does not exceed 1/8" over the entire length of the hoistway and that DBG measurements never vary more than .030".
 4. As required, car guide rails joints shall be individually filled, filed and sanded in order to eliminate minor variations in adjoining machined surfaces.

R. Roller Guides

1. Provide roller guide shoes with adjustable mounting base, rigidly bolted to the top and bottom of each side of the car and counterweight frame.
 - a. Roller guides shall consist of a set of sound reducing neoprene wheels in precision bearings held in contact with the three finished rail surfaces by adjustable stabilizing springs.
 - b. The bearings shall be provided with grease fittings for lubrication.
 - c. Equip roller guides with adjustable stops to control postwise float.
 - d. Fit the top car roller guides with galvanized, 16 gauge steel guards.

S. Car Frame and Platform

1. The car frame shall be made of steel members, with a factor of safety as required by the ASME Code.
2. The car platform shall consist of a steel frame with necessary steel stringers, all securely welded together.
3. The frame and platform shall be so braced and reinforced that no strain will be transmitted to the elevator car.
 - a. Provide platform with two (2) layers of 3/4" thick marine grade plywood.
 - b. Cover the underside of the car platform with sheet steel.
4. The support frame shall carry rubber pads on which the platform shall rest without any connection to the steel frame for sound and vibration isolation.
5. Provide extruded nickel silver thresholds having non-slip surface, guide grooves.

T. Safety

1. Provide a new governor actuated mechanical safety device mounted under the car platform and securely bolted to the car sling. Assure for compatibility with Governor.
2. The car safety shall be sized for the capacity and speed noted herein.
 - a. When tripped, the safety mechanism shall engage the rails with sufficient force to stop a fully loaded car with an average rate of retardation within the limits given in A17.1 Safety Code as adopted and/or otherwise modified by the New York City Building Code Chapter K.



3. Install a car safety marking plate of corrosion resistant metal and, in addition to the data required by Code, indicate the manufacturer's name and manufacturer's catalog designation number for safety.
4. Make provisions to release the car safety. In no event shall the safety be released by downward motion of the car. Raising the car to reset the safety shall be allowed.
5. Provide an electrical safety plank switch that will interrupt the power to the hoist machine when the safety is set.

U. Equipment Isolation

1. Provide sound reducing vibration isolation elements at all support points of elevator controller, solid-state motor drives, isolation transformers, reactance units, hoisting motors and machines.
2. The elements for controllers, solid-state motor drives and isolation transformers shall be similar to double deflection neoprene-in-shear mounts, as manufactured by Mason Industries, Type ND, with 0.35" static deflection under design load ratings.
3. Elements between the hoisting machine unitized base and machine support beams shall be similar to triple layer ribbed neoprene pads, separated by appropriate steel shims as manufactured by Mason Industries, Type W pads, at 50 durometer, loaded for 40 psi or approved equal.
4. All bolts through isolation elements, where necessary, are to incorporate resilient washers and bushings.

V. Top-of-Car Operating Station

1. An inspection operating station shall be provided on top of the elevator car.
2. This station shall be installed so that the controls are plainly visible and readily accessible from the hoistway entrance without stepping on the car.
3. When the station is operational, all operating devices in the car shall be inoperative.
4. Provide the following control devices and features:
 - a. A push/pull or toggle switch designated "EMERGENCY STOP" shall be arranged so as to prevent the application of power to the hoist motor or machine brake when in the "off" position.
 - b. A toggle switch designated "INSPECTION" and "NORMAL" to activate the top of car Inspection Service Operation.
 - c. Push button designated "Up", "Down" and "Enable" to operate the elevator on Inspection Service (the "Enable" button shall be arranged to operate in conjunction with either the "Up" or "Down" button).
 - d. An indicator light and warning buzzer that are subject to activation under Phase I - Fire Emergency Recall Operation.
5. The unit may contain the following additional devices:
 - a. Approved car top lighting fixture with service guard and local control switch.
 - b. Approved 120 Volt grounded convenience receptacle.

W. Emergency Exits (Top)



1. Ensure they operate as per code and have proper electrical contacts on the exterior of the cab enclosure.

X. Designation and Data Plates, Labeling and Signage.

1. Provide floor designation plates at each elevator entrance, on both sides of the jamb at a height of 60 inches to center line of plate.
 - a. Designations shall be 2" high, 0.03" raised and stud mounted.
 - b. Type shall be as selected by the Commissioner from premium line of plates.
2. Identify the designated medical emergency services elevator with 3" high international symbol at each elevator entrance on both sides of the jamb.
 - a. Type shall be as selected by the Commissioner from premium line of plates.
3. Provide elevators with data and marking plates, labels, signage and refuge space markings complying with A17.1 Elevator Safety Code as may be adopted and/or otherwise modified by the New York City Building Code Chapter K.

Y. Electrical Conduit, Wiring and Traveling Cable

1. Electrical wiring shall be provided.
 - a. All wiring shall be stranded copper conductors, manufactured in compliance with ANSI/ASTM B174-71 and UL 62 requirements, and polyvinyl chloride insulation complying with ETT requirements of UL 62 and Article 400 of the National Electric Code.
 - b. Electrical wiring provided for hoistway interlock shall be of a flame retardant type, capable of withstanding temperatures of at least 392 degrees Fahrenheit. Conductors shall be Type SF or the equivalent thereof.
 - c. Each run of electrical conduit or duct shall contain no less than 10% spare wires and, in any case, no fewer than two (2) spare wires.
 - d. Crimp-on type wire terminals shall be used where possible.
2. Traveling cable shall be provided.
 - a. Each traveling cable shall be provided with a flame and water resistant polyvinyl chloride jacket.
 - b. Electrical wiring shall consist of stranded copper conductors, manufactured in compliance with ANSI/ASTM B174-71 and UL 62 requirements, and polyvinyl chloride insulation complying with ETT requirements of UL 62 and Article 400 of the National Electric Code.
 - c. Each traveling cable shall contain no less than 10% spare wires.
 - d. Traveling cable exceeding 100' in length shall be provided with a steel wire rope support strand from which the cable shall be suspended.
 - e. Traveling cable must be contained within an approved electrical conduit to within 6' of the final suspension point in the hoistway.



- f. Each traveling cable shall be arranged to provide no fewer than six (6) individually shielded pairs of 20 gauge wire and arranged to contain no less than one (1) coaxial cable for CCTV remote monitoring.
 - g. All traveling cable conductors shall terminate at a hoistway center box and shall be connected to stud block provided for that purpose.
 - 1) Each wiring terminal shall be clearly identified by its nomenclature as shown on the "as built" wiring diagrams and solderless, crimp-on type wire terminals shall be used where possible.
 - h. The attachment of a traveling cable to the underside of the elevator car shall be performed so that a minimum loop diameter of 30x the cable diameter is provided.
 - i. Pre-hang the cables for at least 24 hours with ends suitably weighted to eliminate twisting during operation.
 - j. Provide CCTV conductors for future camera system. CCTV conductors shall be terminated in a suitable junction box to be located on the top of the car.
 - 3. Rigidly supported EMT conduit, flexible metal conduit and galvanized steel trough shall be utilized throughout the hoistway.
 - a. Both EMT and flexible conduit shall be connected on either end by use of compression fittings and secured in place with metal clamps sized in accordance with the diameter of conduit utilized.
 - 1) Wire or plastic wire ty-raps shall not constitute an acceptable means of fastening.
 - b. The use of flexible metal conduit shall be limited to runs not greater than 3' in length.
 - c. All abandoned or unused electrical conduit shall be removed from the hoistway.
 - d. Existing conduit and wiring duct may be reused if suitable for the application.
 - 1) Reuse of existing conduit/duct shall be at the discretion of the Commissioner.
- Z. Normal and Final Terminal Stopping Devices
 - 1. Provide normal terminal stopping devices to stop the car automatically from any speed obtained under normal operation within the top and bottom overtravel, independent of the operating devices, final terminal stopping device and the buffers.
 - 2. Provide final terminal stopping devices to stop the car and counterweight automatically from the speed specified within the top clearance and bottom overtravel.
 - 3. The terminal stopping devices shall have rollers with rubber or other approved composition tread to provide silent operation when actuated by the fixed cam in the hoistway.



- a. Terminal stopping devices that are not mechanically operated (i.e.: magnetic proximity) shall be provided by the manufacturer of the control equipment, intended for use as a terminal limit, and designed for reliable operation in the hoistway environment.
4. Final terminal limits shall be pinned so as to prevent movement after final adjustment where required by the New York City Building Code Chapter K.

AA. Pit Stop Switch

1. Where pit depth does not exceed 67", each elevator pit shall be provided with a push/pull or toggle switch that is conspicuously designated "EMERGENCY STOP" and located so as to be readily accessible from the hoistway entrance on the lowest landing served at a height of approximately 18" above the floor.
 - a. This switch shall be arranged to prevent the application of power to the hoist motor and machine brake when placed in the "OFF" position.
2. Where climb-in pit depth exceeds 67", each pit shall be provided with two (2) push/pull or toggle switches conspicuously designated "EMERGENCY STOP".
 - a. Both of these stop switches, shall be located immediately adjacent to the pit access ladder.
 - 1) Place one stop switch approximately 47" above the pit floor.
 - 2) Place the second stop switch 18" above the hoistway entrance sill on the lowest landing served.
 - 3) These switches shall be arranged so as to prevent the application of power to the hoist motor or machine brake when either one is placed in the "OFF" position.
3. Where a walk-in pit exists, each elevator shall be provided with a push/pull or toggle switch that is conspicuously numbered and designated "EMERGENCY STOP".
 - a. The location of this stop switch shall be approximately 47" above the pit floor at the nearest point of pit entry from the access door.
 - b. This switch shall be arranged so as to prevent the application of power to the hoist motor and machine brake when placed in the "OFF" position.
4. Provide an electric contact safety switch for the pit access door if any equipment attached to the car extends within the space of the hoistway pit at any point of travel including the car under full compressed buffer.
 - a. Opening the pit access door shall cause the electric contact switch stop the elevator by interrupting electric power to the driving machine and brake.
 - b. Provide a sign on the pit door "WARNING - OPENING OF PIT DOOR WILL STOP ELEVATOR" using lettering a minimum of 2 inches high.



5. Existing stop and/or pit door switch conforming to the requirements set forth herein may be refurbished to as new condition and reused subject to approval of the Commissioner.

BB. Automatic Group Duplex Selective Collective Operation

1. Provide duplex selective collective operation with the two cars arranged to operate from a single riser of hall push buttons.
2. When there is no demand for elevator service, park one car at the Lobby Floor and the other shall be a "free car", parking at the floor last served.
 - a. Park both cars with doors closed.
 - b. The "free car" shall normally respond to any registered hall call except:
 - 1) A hall call registered at the Lobby Floor shall be answered by the car parked at the Lobby Floor.
 - 2) A hall call registered below the Lobby Floor shall be answered by the car parked at the Lobby Floor.
3. When the car parked at the Lobby Floor responds to a registered car for a floor above the Lobby Floor, the idle "free car" shall be dispatched automatically to the Lobby Floor, and shall become the assigned Lobby Floor parking car.
4. When the "free car" is responding to registered calls, the Lobby Floor parking car shall automatically start the "free car" under any of the following conditions:
 - a. Registration of hall call below the "free car" while it is traveling in the up direction.
 - b. Registration of hall call above the "free car" while it is traveling in the down direction.
 - c. Inability of the "free car" to move in response to a registered hall call within a predetermined time.
5. When both cars are responding to registered car and hall calls, the first car to complete its calls shall become the assigned Lobby Floor parking car and shall be dispatched automatically to the Lobby Floor.
6. If either car is removed from service, the other car shall respond to all registered hall calls and its own car calls.
7. When a car arrives at its last stop and reverses direction of travel, all previously registered car calls shall be automatically cancelled.
8. When a car has responded to the highest or lowest call, and the hall calls are registered for the opposite direction, the car shall reverse direction automatically and respond to those registered calls.
9. When a car arrives at a landing where both up and down hall calls are registered, it will answer the call in the direction of travel.
 - a. If no car call is registered, the car shall be assigned to respond to call registered for opposite directions; car doors shall not close and re-open to respond to the call.
 - b. Hall lantern operation shall always correspond to direction of service.



10. When an empty car reverses direction at a landing with no hall calls, doors shall not open and hall lantern shall not operate.
11. If a car has no car calls registered and arrives at a floor where both up and down hall calls have been registered, the car shall respond to the hall call corresponding to the direction of car travel.
12. If, after making its stop, a car call is not registered and no other hall calls exist ahead of the car corresponding to its original direction of travel, the doors shall close and immediately reopen in response to the hall call for the opposite direction.
13. The car shall maintain its original direction at each stop until the doors are fully closed to permit a passenger to register a car call before the car reverses its direction of travel.
14. In the event that any car is delayed for more than a predetermined time interval after it received a start signal, the system shall automatically permit the remaining cars in the group to respond to signals and be dispatched in the specified manner.
15. Coincident calls: The dispatching system shall be designed with a 20 second parameter whereby an elevator with a car call will receive priority to answer a corresponding corridor call if it can do so within 20 seconds. If it cannot answer the call within the prescribed time, the first available car shall be assigned. A continuous reassessment of calls shall be made, with the processor having the capability of reassessing five (5) times per second.
16. In the event the supervisory control system should malfunction so that neither elevator is assigned calls within a predetermined interval and in accordance with the conditions of the operating strategy in effect, the system shall automatically assume a back-up mode of operation whereby the elevators shall be arranged to provide continuous service to each landing in a predetermined pattern without regard to actual corridor call demands.

CC. Motion Control

1. Smooth stepless acceleration and deceleration of the elevator car shall be provided in either direction of travel during both single and multiple floor runs.
2. Use digital logic to calculate optimum acceleration and deceleration patterns during each run.
 - a. The amplitude of acceleration and deceleration shall not exceed 4 ft/sec².
 - b. The maximum jerk rate shall not exceed 8 ft/sec³.
 - c. The maximum velocity which the elevator achieves in either direction of travel while operating under load conditions that vary between empty car and full rated load shall be within $\pm 2\%$ of the rated speed.
3. Floor leveling accuracy of $\pm 1/4"$ as measured between the car entrance threshold and the landing sill on any given floor shall be provided.
 - a. This accuracy standard shall be maintained under varying load conditions and without need for releveling corrections caused by overshooting or stopping short of the floor (spotting).
4. Brake-to-brake elapsed time during a typical elevator one floor run shall not exceed values as further specified in this document.



- a. Timing, as measured between initial brake lift and the moment the brake sets with the car position level at the next adjacent floor, shall remain consistent under varying load conditions in either direction of travel.
5. Elapsed flight time during a typical elevator one floor run shall not exceed values as further specified in this document.
 - a. Timing, as measured between the moment door closing operations begin and when the doors are 3/4 open at the next adjacent floor, shall remain consistent under varying load conditions in either direction of travel.

DD. Attendant Service Operation

1. Arrange the elevators for operation with or without an attendant.
2. The transfer from automatic to attendant operation shall be by means of a key operated switch in the car station.
 - a. Locate this switch behind a locked cover in the car station, which shall also contain an "up" and a "down" direction button and a "Pass" button.
 - b. A service demand buzzer and up and down signal lights shall also be included in the car station.
3. When the transfer switch is in the attendant position, the car shall answer calls normally except, the attendant, operating either the "Up" or the "Down" button, shall establish the direction of travel, close the doors and start the car after each stop.
4. The car landing and door opening shall be completely automatic.
 - a. The doors shall remain open until a direction is initiated by the attendant.
 - b. If the button is released before the doors are fully closed and interlocked the doors shall reopen.
 - c. Continuous pressure on one of these buttons or the "Pass" button shall cause the car to by-pass corridor calls and respond only to pre-registered calls in the direction of travel.
 - d. The by-passed calls shall remain registered to be answered by another car or another trip.
5. The up and down signal lights indicate that an unanswered corridor call is above or below the car and shall remain illuminated until all calls for that direction are answered.
6. Operation of an "Up" or "Down" corridor push button shall momentarily sound the service demand buzzer in the car if it is stopped at a floor with its doors open.
7. Announced calls by entering passengers shall be registered by the attendant.
8. Load weighing devices shall be inoperative when on attendant operation.

EE. Independent Service Operation

1. The car operating station shall be equipped with a key-operated switch labeled "IND SER", which shall be located in the exposed top area of the car operating stations.



2. When placed in the "on" position, this switch shall cause the elevator to bypass corridor calls and to travel directly to any floor chosen by registration of a car call.
3. During Independent Service Operation, the elevator doors shall remain open at any landing until the door close or car call registration pushbutton, is pressed and maintained until the doors are fully closed.
4. In case an elevator is operating on the Independent Service mode and the Fire Emergency Recall system becomes activated, the elevator shall automatically override Independent Service Operation and engage Phase I - Fire Emergency Recall Operation following a period of approximately forty-five (45) seconds.
5. If more than one (1) car call is registered, all registered car calls shall extinguish when the elevator stops in response to the first call.
6. The "Car Cancel" shall be operative with the Independent Service Mode.

FF. Inspection Service Operation

1. Provide a key operated switch in the main car operating panel that, when turned to the 'ON' position, shall cause the elevator to be removed from service and placed in Inspection Service Operation.
2. Limited operation of the car shall be provided through pressing the Attendant Service up and down momentary push buttons (if provided) or the highest or lowest car call push buttons (if up and down buttons are not provided) in the main car operating panel only.
3. The car shall move at a speed not to exceed 150 feet per minute as per code with both the hall and car door panels in the closed and locked position.
4. The Inspection Service switch shall be keyed differently than other typical keys used in the operation of the elevator. Keying shall be in accordance with Security Group Classifications as required by applicable code.
5. The top of the elevator car shall be equipped with a control for limited operation of the car during repairs, maintenance and inspection conducted in the hoistway. The transfer of control to the top of car operating device shall cause that device to be the sole means of control for the elevator.
6. Power door operating equipment shall be rendered inoperative while the car is being operated in the Inspection Service mode with the exception of power closing of the door. The control system shall maintain closing power on the door while the elevator is moving under Inspection Service Operation.
7. The in-car Inspection Service switch shall be rendered ineffective when the top of car inspection control is activated.
8. Machine Room Inspection Operation and Inspection Operation with open door circuits shall be provided in accordance with A17.1 Safety Code where required or allowed by the New York City Building Code Chapter K.

GG. Hoistway Access Operation

1. Provisions shall be made to allow access to the hoistway through the use of hoistway access switches.
2. Operating the access switch shall permit the car to be moved at slow speed (inspection speed) with the doors open to allow authorized persons to obtain access to the top of the car.



HH. Fire Emergency Operation (City of New York)

1. Phase I - Emergency Recall Operation shall be provided in accordance with the applicable ASME A17.1 code as modified under New York City local law.
2. The car operating station shall be provided with an indicator light and audible signal, each of which shall become activated when Phase I Operation is engaged.
 - a. The warning buzzer shall cease to function once the car has completed the recall sequence and is positioned at the designated recall landing.
 - b. The indicator light shall remain illuminated as long as Phase I Operation is activated.
3. A two-position key-operated switch shall be provided on the designated recall landing per local law to manually activate Phase I Operation.
 - a. When activated, Phase I Operation shall be arranged so that in order to restore normal service, the car must first be returned to the designated recall landing, after which the Phase I key-switch must be turned to the 'OFF' position.
4. Phase II - Emergency Recall In-Car Operation shall be provided in accordance with applicable ASME A17.1 code as modified under New York City local law.
5. The car operating panel shall be modified or equipped with a three-position, key-operated switch to engage Phase II Operation subsequent to completing the Phase I recall sequence and parking at the designated recall landing.
6. The car operating panel shall be provided with a 'CALL CANCEL' push button that functions only under Phase II Operating mode.
 - a. When operated, the button shall cause any previously registered car calls to cancel.
7. The car operating panel shall be engraved with required fire control identifications per New York City local law.
8. A "Standardized Fire Recall Key" shall be used in accordance with the applicable Codes. This key shall be a Yale #2642 / 1620.

II. Car to Lobby Operation

1. A control panel shall be provided in the lobby with a separate key-operated switch for each elevator to activate the Car-to-Lobby operating feature.
 - a. When engaged, this feature shall cause the affected elevator to return non-stop to the lobby after it has discharged all registered car calls.
2. Upon arriving at the lobby, the door shall open for approximately ten (10) seconds, after which the elevator shall park out of service with its door closed.
3. During the interval in which the car is out of service, the "door open" push button located in the car operating station shall continue to function.



4. Returning the key-operated switch in the lobby panel to the "off" position shall restore the car to normal operation.
5. The Car-to-Lobby operating feature shall be overridden by Phase I - Fire Emergency Operation and inoperative during Phase II - Fire Emergency Operation.

JJ. Card Reader Control Provisions-

1. Wiring: Provide six (6) pair of 20 gauge two (2) flexible conductor low voltage cables with an overall braided shield in the traveling cable of all elevators for card reader interface.
 - a. The cables shall extend from the security interface terminal cabinet in the elevator machine room to behind the elevator return panel above the space allotted for the card reader.
 - b. Terminate the cable to dual screw barrier terminal strips on each end.
2. Card Reader Space: Allocate card reader space in each main car station.
3. Interface: For floor programmable card access control in all elevators, provide a pair of terminals for all floors such that application of a momentary dry (no voltage present) contact closure across those terminals by the security system shall enable the selection of the corresponding floor from the floor selector button in the elevator cab.
 - a. Locate the terminals inside an interface terminal cabinet in the elevator machine room.
 - b. Provide any relays that are required to interface the elevator control system to the momentary dry contact closures provided for under another section of these specifications.
 - c. If applicable, the card reader shall be operable and compatible with the issued card keys used building wide.
 - d. Coordinate system requirements with the manufacturer of the issued card key system.
4. Card Reader "Secure/Bypass" Switch: Provide separate card reader control bypass key switches for each elevator.
 - a. The bypass key switches shall be located in the elevator car operating panels.
 - b. The bypass key switches shall be a maintained contact type key switch with the key removable in the secure or bypass position.
 - 1) When the key switch is in the secure position, the card reader control mode shall be initiated.
 - 2) When in the bypass position, the card reader control mode shall be bypassed and the elevator shall return to normal operation, permitting free access to any floor.
5. The card reader operation shall bypass floor cut-out switches.
6. Firefighter controls shall override all security operations.
7. Car reader shall be manufactured by DSX Access System, model No. 1040 or approved equal



KK. Load Weighing

1. A positive means shall be provided to continuously monitor the amount of load being transported by the elevator car.
2. The system shall be used to preload static motor drives, activate control features that include anti-nuisance operation, load dispatch operation, and load non-stop operation where applicable.
3. The anti-nuisance feature shall operate at loads not exceeding 200 lbs., whereas load dispatch and load non-stop shall be set to function at 65% of the rated loading capacity for the initial set up and adjustment procedure.

2.5 DOOR DEVICES AND OPERATION

A. Car/Hoistway Door Operation

1. Car and hoistway doors shall be arranged to operate in unison without excessive noise or slamming in either direction of travel.
 - a. Door opening speeds of two (2) feet per second shall be provided in conjunction with closing speeds of 1.0 feet per second in accordance with code.
 - b. Door operation shall be arranged to commence as the car enters its final leveling approach to a landing. In no case shall the door opening cycle conclude before the car comes to a complete stop at floor level.
 - c. Door operation shall commence as the car stops level at the floor and the machine brake is applied. Pre-door opening shall not be permitted.
2. Door open and door close time shall be measured between the moment car door operation in either direction begins and the instant at which that cycle is completed.
3. When responding to either a car or corridor call, the amount of time that the elevator door remains stationary in the open position shall be adjustable up to sixty (60) seconds.
 - a. Door open dwell time for a corridor call shall be separate of that for a car call, and in both cases, dwell time shall be canceled whenever the car door protection device is momentarily interrupted by passenger transfers, followed by a reduced door open dwell time of approximately one (1) second (adjustable) after the door protection device is cleared of obstructions.
4. The operation of the door protective device by physical contact (mechanical safety-edge) or the interruption of one or more infrared light beams (dual or multi-beam non-contact) during the close cycle shall cause the immediate reversing of the doors to the full open position.
5. The door closing cycle shall be arranged so that, in the event the door protective devices become continually obstructed after the normal door open dwell time has expired, and following a time interval of approximately thirty (30) seconds (adjustable), a warning tone shall sound and the door closing cycle shall commence at reduced speed and torque per applicable Code requirements.



6. Each car operating station shall be provided with a "door open" and "door close" push button.
 - a. Pressure on the "door open" button shall cause doors in the full open position to remain so and doors engaged in the close cycle to reverse direction and assume the full open position so long as pressure remains applied to the button.
 - b. The "door open" buttons shall also control the open cycle during Phase II - Emergency In-car Operation.
 - c. The "door close" push button shall function on Independent Service, Attendant Service or Phase II - Emergency In-car Operation as well as during normal automatic operations.
7. Repeated attempts by the power door operator mechanisms to open or close the door at any landing shall be monitored by the microprocessor-control system.
 - a. In the event the door should fail to cycle properly after a preset (adjustable) number of attempts, the car shall either travel to the next stop or remove itself from service, depending upon whether the malfunction is in the open or close cycle.
8. Each hoistway door shall be provided with an automatic self-closing mechanism arranged so that if the car should leave the landing while the hoistway door is unlocked, the closing device shall immediately close and lock the door.
9. Car door shall be arranged so as to prevent their being manually opened from inside the car unless the elevator is positioned within a floor landing zone.

B. Master Door Power Operator System – VVVF/AC

1. Provide a heavy-duty master door operator on top of the elevator car enclosure for power opening and closing of the cab and hoistway entrance door panels.
2. Operator shall utilize an alternating current motor, controlled by a variable voltage, variable frequency (VVVF) drive and a closed-loop control with programmable operating parameters.
 - a. System may incorporate an encoder feedback to monitor positions with a separate speed sensing rotating device or an encoderless closed-loop VVVF-AC control to monitor motor parameters and vary power applied to compensate for load changes.
3. The type of system shall be designated as a high speed operator, designed for door panel opening at an average speed of 2.0 feet per second and closing at approximately 1.0 foot per second.
 - a. Reduce the closing speed as required to limit kinetic energy of closing doors to within values permitted by ASME A17.1 as may be adopted and/or otherwise modified by the New York City Building Code Chapter K.
4. The door shall operate smoothly without a slam or abrupt motion in both the opening and closing cycle directions.



- a. Provide controls to automatically compensate for load changes such as:
 - 1) Wind conditions (stack effect)
 - 2) Use of different weight door panels on multiple landings
 - 3) Other unique prevailing conditions that could cause variations in operational speeds.
 - b. Provide nudging to limit speed and torque in conjunction with door close signaling/closing and timing devices as permitted by ASME A17.1 as may be adopted and/or otherwise modified by the New York City Building Code Chapter K. Nudging shall be initiated by the signal control system and not from the door protective device.
5. In case of interruption or failure of electric power from any cause, the door operating mechanism shall be so designed that it shall permit emergency manual operation of both the car and corridor doors only when the elevator is located in the floor landing unlocking zone.
- a. The hoistway door shall continue to be self-locking and self-closing during emergency operation.
 - b. The door operator and/or car door panel shall be equipped with safety switches and electrical controls to prevent operation of the elevator with the door in the open position as per ASME A17.1 Code Standards.
 - c. Provide zone-lock devices as required by ASME A17.1 as may be adopted and/or otherwise modified by the New York City Building Code Chapter K.
6. Construct all door operating levers of heavy steel or reinforced extruded aluminum members, designed for stress and forces imposed on the related parts, linkages and fixed components during normal and emergency operation functions.
- a. All pivot points shall have either ball or roller-type bearings, oilite bronze bushings or other non-metallic bushings of ample size.
- C. Car Door Hangers, Sheaves, Tracks and Gate Switch
1. Provide a sheave type two-point suspension hanger and track for each car door.
 - a. Sheaves shall be hardened steel, not less than 3-1/4 inches in diameter with sealed grease packed precision ball bearings.
 - b. The upthrust shall be taken by a roller mounted on the hanger and arranged to ride on the underside of the track.
 2. The track shall be of formed cold rolled steel or cold drawn steel and shall be rounded on the track surface to receive the hanger sheaves.
 - a. The track shall be removable and shall not be integral with the header.
 3. Provide a gate switch that mounts directly to the car door track.



- a. The gate switch shall prevent movement of the elevator until such time as it signals the control equipment that the car door has physically closed.

D. Door Reopening Device

1. Provide an infrared curtain door protection system.
2. The door shall be prevented from closing and reopen when closing if a person interrupts any one of the light rays.
3. The door shall start to close when the protection system is free of any obstruction.
4. The infrared curtain protective system shall provide:
 - a. Protective field not less than 71" above the sill.
 - b. Where a horizontal infrared light beam system is used:
 - 1) A minimum of 47 light beams.
 - 2) Accurately positioned infrared lights to conform to the requirements of the applicable handicapped code .
 - c. Modular design to permit on board test operation and replacement of all circuit boards without removing the complete unit.
 - d. Controls to shut down the elevator when the unit fails to operate properly.

2.6 FINISH AND MATERIALS

A. Finish and Design

1. Refer to specifications and architectural drawings for finish and design requirements.

2.7 CAR ENCLOSURES AND ACCESSORIES (See Specification 14 21 05 CAB)

A. Elevator Cab Enclosure Fan

1. Provide an exhaust type two-speed fan unit with cover grill, mounting accessories and necessary cab enclosure modifications.
 - a. Fan unit shall include self-lubricating motor with housing rubber mounted for sound vibration isolation.
2. Provide a key switch in the elevator cab enclosure for control of fan unit.
3. Provide necessary wiring and approved conduit to properly connect fan unit with power source and control key switch.

B. Elevator Cab Emergency Lighting and Alarm Bell

1. Provide a self-powered emergency lighting system in the elevator car, consisting of alarm bell and a power pack unit.
2. Arrange two of the cab light fixtures to operate as the emergency light system.



3. Provide nickel cadmium batteries and a charger and mount the power pack on top of car.
4. Arrange for completely automatic operation when normal power is interrupted.
5. Provide a test button and indicator light in the car station service cabinet.
6. Unit shall provide continuous illumination and mechanical ventilation for at least four (4) hours and one (1) hour alarm bell operation.
7. The operation shall be completely automatic upon failure of normal power supply. Unit shall be connected to normal power supply for car lights and arranged to be energized at all times. It automatically recharges battery after use.
8. A 6" diameter alarm bell with a sound output of between 80-90 dBA (measured from a distance of 10") shall be mounted on top of the elevator car. Activation of this bell shall be controlled by the ALARM button in the car operating station which shall illuminate when pressed.

C. Car Enclosure Work Light and Receptacle

1. The top and bottom of each car shall be provided with a permanent lighting fixture and 110 volt receptacle.
2. Light control switches shall be located for easy accessibility from the hoistway entrance.
3. Where sufficient overhead clearance exists, the car top lighting fixture shall be extended no less than 24" above the crosshead member of the car frame.
4. Light bulbs shall be guarded so as to prevent breakage or accidental contact.

2.8 HOISTWAY ENTRANCES

A. Hoistway Entrances

1. Hoistway entrance sills, sill supports, entrance frames, headers and header supports shall be reused and refurbished.
 - a. Hoistway entrances that have become distorted or bent shall be straightened, plumbed, reset to the proper width dimension and reinforced as necessary.
 - b. Provide 14 gauge steel fascia plates that extend at least the full width of the door and be secured at hanger support and sill with oval head machine screws.
 - 1) Reinforce fascia to allow not more than ½" of deflection.
 - 2) Provide fascia plates where the clearance between the edge of the loading side of the platform and the inside face of the hoistway enclosure exceeds the code allowed clearance.
 - c. Provide 14 gauge steel toe guards that extend 12" below any sill not protected by fascia.
 - 1) The toe guards shall extend the full width of the door and shall return to the hoistway wall at a 15 degree angle and be firmly fastened.



- d. Remove oil, dirt and impurities on new and existing apparatus and give a factory coat of rust inhibitive paint to all exposed surfaces of struts, hanger supports, covers, fascias, toe guards, dust covers and other ferrous metal.

B. Tracks, Hangers, Closers and Related Equipment

1. Formed or extruded steel landing door hanger tracks shall be provided.
2. Each landing door panel shall be suspended from a pair of door hanger assemblies that are compatible with the hanger tracks.
 - a. Hanger assemblies shall be directly mounted to the door panel using 3/8" diameter or better hardware.
 - b. Solid steel blocks shall be used where job-site conditions dictate the use of spacers between hanger assemblies and the landing door panel.
 - 1) Jacking bolts or "U" shaped spacers are not acceptable for this application.
 - c. Hanger assemblies shall be adjusted or shimmed so that door panels are suspended in a plumb manner with no more than 3/8" vertical clearance to the cab entrance threshold.
 - d. Upthrust rollers shall be adjusted for minimal operating clearance against the bottom edge of the hanger track.
3. Each set of center opening landing doors shall be provided with a cable driven relating mechanism which is compatible for use with the door hanger assemblies.
 - a. The relating mechanism shall be properly tensioned and adjusted so as to equalize the relationship between the door panels and the hoistway entrance.
4. Each set of multi-speed center opening or side slide landing doors shall be provided with a sill-mounted spring closing mechanism.
5. Each set of single speed side slide landing doors shall be provided with a sill-mounted spring closing mechanism.
 - a. Spirator-type spring closers shall be acceptable should prevailing sill depth or runby clearance conditions require their use.
6. Where applicable, each hoistway door interlock assembly shall be provided with an emergency release mechanism utilizing manufacturers' standard type access key at all landings served.
 - a. Drill each hoistway door to accommodate manufacturers standard lock release key and install escutcheon. Escutcheon shall be brushed stainless steel to match door panels where required. Aluminum shall be provided at all other typical floors.



C. Interlocks and Unlocking Devices

1. Each set of landing doors shall be provided with a complete electromechanical interlock assembly.
 - a. Each interlock assembly shall consist of:
 - 1) A switch housing with contacts
 - 2) Lock keeper
 - 3) Clutch engagement/release subassembly
 - 4) Associated linkages
 - b. Arrange the lock so that individual leading door panels (side slide or center opening) are locked when in the closed position.
2. Non-typical mounting arrangements for interlocks and/or related mechanisms must receive prior approval from the Commissioner.
3. Each hoistway door interlock assembly shall be provided with an emergency release mechanism utilizing a drop-leaf type access key at all landings served.
 - a. Drill each hoistway door to accommodate manufacturers standard lock release key and install escutcheon. Escutcheon shall be brushed stainless steel to match door panels where required. Aluminum shall be provided at all other typical floors.

D. Bottom Guides and Safety Retainers

1. The bottom of each side sliding type hoistway door panel shall be equipped with a minimum of two (2) guiding members.
 - a. Metal mounting angles shall be secured to the integral panel frame structure; and when conditions warrant, additional external metal support plates or angles shall be installed to ensure the integrity of the panel frame is not compromised.
 - b. Guides shall be manufactured of low friction non-metal material with sufficient strength to withstand forces placed on door panels per ASME A17.1 Standards.
 - c. Each guide assembly shall incorporate a steel fire stop and be so designed to permit sliding member replacements without removal of door panel(s) from top hanger devices.
 - d. Panels shall be hung with a maximum vertical clearance of 3/8 inch between top of sill and bottom of panel and the guide shall engage the sill groove by not less than 1/4 inch.
2. The bottom of each side sliding type hoistway door panel shall be equipped with a guiding member safety retainer and stationary sill block to prevent displacement in the event of primary guide means failure.
 - a. A metal reinforcement (12 gauge stainless or galvanized steel) shall be installed between the two (2) primary guiding members (a.k.a. "Z" bracket).



- b. The reinforcement shall be designed with a minimum length of 8 inches or the maximum possible length that will fit between the primary members and a minimum overall height of 2.5 inches secured on the internal face of the door panel. (Hoistway side)
- c. The retainer shall be set with the supplemental safety angle $\frac{3}{8}$ inch into the corresponding sill groove; and be capable of preventing displacement of the panel no more than $\frac{3}{4}$ inch with an applied force of 1125 lbf at right angles over an area 12 inches x 12 inches at the approximate center of the door panel.

2.9 SIGNAL EQUIPMENT

A. General

- 1. The design and location of the hall and car operating and signaling fixtures shall comply with the ADAAG.
- 2. The operating fixtures shall be selected from the manufacturer's premium line of fixtures.
- 3. The layout of the fixtures including all associated signage and engraving shall be as approved by the City of New York and the Commissioner.
- 4. Faceplates shall be as follows:
 - a. Passenger Elevators
 - 1) Typical Floors: $\frac{1}{8}$ " thick bronze faceplate with No. 4 finish.
 - 2) Ground Floor: Custom designed steel/bronze faceplate with No. 4 finish.
- 5. Mount passenger elevator fixtures with tamperproof fasteners. The screw and key switch cylinder finishes shall match faceplate finish.
- 6. Where key-operated switch and or key operated cylinder locks are furnished in conjunction with any component of the installation, four keys for each individual switch or lock shall be furnished, stamped or permanently tagged to indicate function.
- 7. All caution signs, code mandated instructions and directives shall be engraved and filled with epoxy.

B. Main Car Operating Panel

- 1. Provide a main car operating push button panel on the inside front return panel of the car.
- 2. The push buttons shall become individually illuminated as they are pressed and shall extinguish as the calls are answered.
- 3. Provide LED call registration lights.
- 4. The operating panel shall include:
 - a. A call button for each floor served.
 - b. "Door open" / "Door close" / buttons.
 - c. "Alarm" button (Interfaced with emergency alarm).
 - d. "Emergency Stop" switch per local law.
 - e. Self-dialing, hands-free telephone and/or intercom with call acknowledging feature and A.D.A. design provisions. (See individual unit clarifications)



- f. Three (3) position firefighter key operated switch, call cancel button and illuminated visual/audible signal system with mandated signage engraved per ASME A 17.1 Standards as modified by the New York City Building Code Chapter K.
- g. "Independent Keyswitch" located at the top of the panel.
- h. Provide a locked (keyed different from "Independent Keyswitch") service cabinet flush mounted and containing the key switches required to operate and maintain the elevator, including, but not limited to:
 - 1) Attendant service switch with associated operating buttons and signal indicators.
 - 2) Light switch.
 - 3) Fan switch.
 - 4) G. F. I. duplex receptacle.
 - 5) Emergency light test button and indicator.
 - 6) Inspection Service Operation key switch.
 - 7) Port for hand-held service tool where applicable.
 - 8) Car Reader "Secure/Bypass" switch (elevators No. 7-10)
- 5. Car operating panel shall be flush mounted with swing type, one-piece faceplate with heavy-duty concealed hinges.
 - a. Mount all key switches that are required to operate and maintain the elevators exposed on the car station except those specified within a locked service cabinet.
- 6. Car operating panel shall incorporate a digital L.E.D. position indicator black-filled engraved unit I.D. number or other nomenclature, as approved by the City of New York, with a "No Smoking" advisory and the rated passenger load capacity
- 7. Equip the car operating panel for with proximity card reader to disconnect the corresponding floor push button.
 - a. Security system shall be overridden by Phase II Firefighter's Emergency Operations in accordance with code.
- 8. Where posting of an advisory is permitted by the City of New York in lieu of the inspection certificate, engrave the following advisory on the hinged cover of the service cabinet, or where otherwise directed by the City of New York.
 - a. Inspection Certificate is On File in the Engineer's Office Located in the Basement.

C. Emergency Lighting Fixture and Battery Powered Alarm

- 1. Provide a self-powered emergency light unit in the elevator car operating panel, consisting of a light fixture, alarm bell and a power pack unit.
 - a. Arrange two (2) of the cab light fixtures to operate as the emergency light system.
 - b. The power pack shall contain a nickel cadmium battery and a charger.
 - c. Unit shall provide continuous illumination for at least four (4) hours and one (1) hour alarm bell operation.



2. The operation shall be completely automatic upon failure of normal power supply.
3. Unit shall be connected to normal power supply for car lights and arranged to be energized at all times so it automatically recharges battery after use.
4. Provide a 6" diameter alarm bell with a sound output of between 80-90 dBa (measured from a distance of 10') mounted on top of the elevator car.

- a. Activation of this bell shall be controlled by the ALARM button in the car operating station which shall illuminate when pressed.

D. Central Exchange Communication System

1. Provide a new automatic Central Exchange Intercommunication system to incorporate the modernized elevators and related areas. System shall be capable of operating on land line or fiber optic.

- a. Each car station shall be equipped with a four (4) inch speaker and separate microphone plus LED to indicate activation of the microphone, and input for the elevator alarm and/or stop button. Additionally, car station operations shall be in conformance with ADA Applications by allowing for audio and visual communications. Mount car station directly to car operating panel utilizing isolation foam supplied by the manufacturer.

- b. Master Stations shall be equipped with labeled, LED-equipped push buttons to enable communications with other stations, and to perform system operating functions. Each unit shall include a three (3) inch speaker, external volume control, and microphone with pre-amplifier.

Calls from the elevator car shall automatically, slowly flash the car station LED. At all designated master stations, the calling car LED will flash and the master will sound an alarm tone until the calling car's button is depressed. Calls may be answered at any of the designated master stations by depressing the calling station's button or by pressing the "ENTER" button. Calls in the elevator car shall be hands-free while the master may respond either by using the "PUSH-TO-TALK/RELEASE TO LISTEN" button mode or HANDS-FREE. When a call is answered at a master station, the flashing LED shall go to steady condition and all designated masters indicating that the call has been answered. Additionally, all other designated masters LED's shall show the calling and called station after connection is made by master. Master stations shall have the ability to call individual stations, groups of stations or all stations at once, as specified, by depressing one button.

- 1) Controlling masters shall have the ability to connect to a busy master via the Priority feature.
- 2) Any master in the system shall have the ability to test other stations for shorts, opens, or grounds that may be detrimental to the system's operation. Also, masters shall automatically self test to the Central Exchange approximately every TWENTY (20) minutes. Visual LED indication shall be shown on the testing master if a fault is detected.
- 3) All master stations shall be designed to include a handset with a 25-foot coiled chord. Masters shall be housed in a metal enclosure with a baked



- enamel finish. Flush mount masters are designed to mount behind a finished face plate. All master and car stations shall operate without degradation on twisted pairs using 20 or 24 AWG, copper wire, with an outer bundle shield.
- 4) Master stations shall be equipped with attached visual (lights or strobes) and audio sounding (bells, warblers, or horns) devices as specified.
2. The Central Exchange cabinet (metal with baked enamel finish) shall contain line connection, voice amplifiers, microprocessor controls, optional interfaces, and input terminal connection printed circuit boards. An externally mounted UL recognized, CSA certified, DC power supply shall be housed in a metal cabinet with baked enamel finish.
- a. Screw type plugs shall be provided in the Central Exchange for all external station wires.
- b. The Central Exchange cabinet shall be shipped completely assembled in accordance with the project specifications.
- c. The entire system shall operate from a separately mounted 48 VDC power supply. The power supply operates at 120 VAC at 50-60 Hz input.
3. An autodialing Telephone System shall be added to the Central Exchange and provide the facilities to connect car station alarm calls to the telephone network with a voice synthesized message, for purposes of obtaining assistance during an emergency as well as allowing incoming calls from remote telephones to any station in the system. The City of New York will provide the phone numbers to be programmed in the system to be called in case of an alarm.
- The Line interactive, computer grade un-interruptible power system (Ferrups), shall have audible alarm sounds, LED indicators for the AC line, ready, charging and battery power and shall ensure uninterrupted operation of the communications system in the event of main power failure or momentary interruptions. The system shall provide at least four (4) hours of back up and be rechargeable. The batteries shall be maintenance free and sealed. The system shall provide fused or overload input and output protection, on-off and alarm silence switches.
4. A new intercommunication elevator traveling cable shall be installed. It shall be wired at the halfway shaft junction box and extend to and be wired at the elevator car junction box. It shall have enough shielded pairs to provide for 50% spares and have a steel core built in for hanging purpose. The cable shall be of the design and construction to meet the needs of the elevator intercom installation.
5. System Station Requirements:

Master Station

	<u>Location</u>	<u>Type</u>	<u>Communication Points</u>
a.	Machine Rooms	Controlling, Surface Mount Direct In, 25 ft. Cord, Horn and Strobe (5 units)	All Units
b.	Custodian's Office	Controlling, Surface Mount	All Units

6. Operation of Intercom Units:



- a. A call is placed from the elevator car station to its designated master station by pressing the "Alarm and/or Stop" button.
 - 1) *(Call Request). This will cause the LED in the car station to slowly flash and the corresponding button of all the designated master stations to flash and an intermittent tone to be heard. When the incoming call is answered by depressing the calling button, the flashing LED will go to steady illumination.
 - 2) NOTE: The "Alarm" and momentary "Stop" button contact, normally open, must be provided by the intercom installer. Supplied contact must be a dry contact, i.e., no voltage present.
 - 3) If a call request is made from a car station to a master station that is busy, the master station operator will hear a short tone and be alerted by a flashing LED on the panel button assigned for that car.
 - 4) These signals will also occur at all other designated master stations whose operators will be able to respond to the incoming call.
 - 5) When the master station answers the incoming call request, an audible tone and an LED will be activated in the car station indicating that the car is monitored (microphone turned on). A call is disconnected by the master station operator by simply depressing the designated car button a second time, thereby extinguishing the LED and releasing the circuit.

Due to compliance with the Americans with Disabilities Act, the car station LED or auxiliary light will continue to flash after the master releases the circuit which will indicate that the message was received by the master station. The master station LED for that car will blink twice and beep every 30 seconds indicating to the master station operator that the car emergency light has not been released. To release the flashing light in the car, the master must call the car, after connection, press "Test/Release".
- b. Master Station to Car Station:
 - 1) A master station can be connected to the designated car station by depressing the corresponding call button.
 - 2) The LED in the button will be illuminated.
 - 3) In the car station an audible tone will be emitted, the LED will light and immediate voice communication will be established.
 - 4) The call is ended by the master station operator depressing the button a second time, disconnecting the circuit.
 - 5) On all other designated master stations during such an exchange, the LED's corresponding to the calling and called stations will be illuminated as an indication that those stations are busy.
- c. Master Station to Master Station
 - 1) Any master station can call any other designated master station in the system by depressing the desired station's call button.
 - 2) If the master station being called is in the Direct-In mode, the called operator will hear a short tone and see a lighted LED indicating that the



hands-free conversation may commence. Direct-In mode is typically used in machine rooms.

- 3) For calls to a master station in Non-Direct-In mode, the called operator will receive the same signals as described above, and must depress the calling station's button or depress "Enter to receive the call. The Non-Direct-In mode is typically used by controlling masters such as security and lobby stations.
- 4) Auxillary signaling devices such as electronic warblers, bells and strobes can be added to any master station as specified.

d. Functions of the Master Station

- 1) Communications in the system are handled by a number of easily operated buttons on the master station panels. These buttons are each provided with an LED indicator, which lights when the button is in use. Function buttons are identified to indicate the operation they perform and call buttons are identified to designate car stations and master stations to which they are assigned.
- 2) All conversations in the system are of the simplex type. That is, the voice transmission is open in only one direction at a time. The direction is controlled by the calling master station operator who may depress the Push-To-Talk button to speak with another station, and release it to listen (see Push-To-Talk Button).
- 3) An incoming call to a master station is signaled by a tone and flashing LED on the panel at the button designated for the calling station.
- 4) The called party at a master station or a car station answers an incoming call "hands-free". The exception to this is an incoming call to a controlling master station, in which case the responding operator must depress the lighting call button assigned to the caller's station before the conversation can take place. Master Stations can be programmed either in "Direct-In" or "Non-Direct-In" as required.

e. Placing a Call

- 1) A call to a station is made by depressing the call button for that station. When the called station responds, the calling operator may respond hands free (see Push-To-Talk Button). The call is terminated by depressing the called stations button a second time. For handset-equipped stations, a button for this function is in the handset.

f. Receiving a Call

- 1) An incoming call to a master station is signaled by a tone and flashing LED on the call button designating the caller's station. The only action required to respond is depressing the button at which the flashing LED appears, or lifting the handset if so supplied. Calls to car stations do not require any action to be received.

g. Push-To-Talk Button (Talk)



- 1) The originator of the call, after depressing the called stations call button, holds down the TALK button while speaking and releases it to listen.
- h. Night Button (Night)
- 1) Activating the Night button sets the system into an auxiliary operating mode, allowing external devices to be used to call or signal a distant station.
- i. Test Release Button (Test/Rel)
- 1) The Test Release button allows an operator to test the circuit between the station and another station in the system for shorts, opens or grounds that may be detrimental to the system operation. Additionally, it is used to release the flashing ADA light in the car.
 - 2) To test a station, press the "Test" button and call the station. A tone is sent to the distant station where it is detected and sent back to the testing station. Hearing the tone response, the testing operator is assured that the circuit is satisfactory between the two stations. If the called station is a master, it must be in "Direct-In" mode.
 - 3) Master stations will automatically self-test to the Central Exchange approximately every 20 minutes. If the master fails to receive an acknowledgement from the Central Exchange, the testing master will turn on the Prior LED indicating that connection cannot be completed.
- j. Direct-In Button (Dir-In)
- 1) The Dir-In button allows the station operator to switch the master to hands-free answering.
- k. Priority Button (Prior)
- 1) If for emergency purposes, a master station must call a busy station, the operator may do by using the priority feature. The master station operator calls the busy station then depresses the PRIOR button, which allows the operator to override a call in progress. This action will allow the calling station to connect to the busy called station.
 - 2) A priority call is terminated by depressing the called station button a second time. Call requests from other masters to either station on priority status will not be canceled.
 - 3) The PRIOR LED is also used to indicate that the master failed self-test.
- l. Enter Button (Enter)
- 1) The Enter button is used when a number of incoming calls from car stations arrive within a short period of each other, preventing the operator from responding to more than one at a time. The programming will automatically place the waiting calls in sequence and store them.



- 2) The operator can respond to the calls in the order that they arrived by pressing the Enter button then the Talk button until no more lighted LED's remain on the panel.
- 3) This feature reduces operator response time when a number of calls are waiting and also provides callers with "first come first served" service.

m. All Call Button (All Call)

- 1) To broadcast a message simultaneously to all stations, the operator must depress the All Call button. Warning chime tones will be emitted at the calling master as well as all stations. After the warning chime tones, the operator depresses the Talk button to announce. The All Call is terminated by releasing the Talk button and pressing the All Call button a second time. An All Call will override all calls in progress in the system and re-establish them when terminated. This feature should be used only when required by special circumstances. Optionally, masters can be restricted from using "All Call". Also, selected stations can be restricted from receiving "All Call".

n. Group Call

The Group Call function allows a designated master station operator to call pre-established groups of stations simultaneously. Groups are constituted in accordance with system operating requirements. To broadcast a message to a group, the operator must depress the Group Call button (example: GCI). Warning chime tones will be emitted at the calling master as well as all stations. After the warning chime tones, the operator depresses the Talk button to announce. The Group Call is terminated by releasing the Talk button and pressing the Group Call button a second time.

- 1) A Group Call will override all calls in progress in the system and re-establish them, when terminated. Optionally, masters can be restricted from using "Group Call" Also, selected stations can be restricted from receiving "Group Call".

7. Operation of the Auto-dialing Telephone System (ADTS)

a. Car to Remote Telephone

- 1) When the alarm button is pressed in the elevator car, the system will automatically connect the alarm call to all designated masters. If the call is not answered by a master, after a predetermined amount of time (programmable in software from 1 to 255 minutes), the ADTS shall connect to the telephone network and dial the predetermined telephone numbers. The Department of Citywide Administrative Services will provide the information of the time dial out delay that is required.
- 2) When the ADTS activates it will automatically dial the first pre-programmed remote telephone number. If there is no answer within 30 seconds, the second number will be dialed and so on. The process will continue until a remote telephone answers.



- 3) When the remote telephone is answered, the ADTS Speech Synthesizer will turn on activating pre-recorded audio message.
Example: You have an emergency elevator call from the number of the elevator. Press the "*" button to answer the call. Press the "#" button to release the call.
- 4) When the remote telephone operator presses the "*" button, the LED in the elevator intercom car station, or the separate ADA light (if used), as well as the microphone turns on. Conversation between the car station and the remote telephone can now commence.
- 5) To release the call, the "#" button on the remote telephone is pressed and the call disconnects. (See ADA Remote Reset.)

b. Remote Telephone to Stations

- 1) To call any station in the system, the operator at the remote telephone dials (touch tone only) the ADTS telephone line number. After 1-4 rings (pre-selectable), the ADTS answers. System dial tone will be heard. Enter the 2 or 3 digit intercom extension number within 8 seconds. If the remote telephone dials a non-assigned intercom extension number, the ADTS will disconnect.
When connection is made to the car, the car station LED and or the separate ADA light (if used), will turn on steady indicating that connection is made or, in the case of ADA, Steady Light - Speak. To release the call, the remote telephone presses the "#" button and the ADTS disconnects the line (See ADA Remote Reset). If the operator fails to disconnect the call, the ADTS will disconnect in 10 minutes.
- 2) If the remote telephone user wishes to call another intercom extension without disconnecting the line, "O" is pressed to release the first call, wait for dial tone, and after the dial tone is heard, the new intercom extension number is entered.
- 3) If a new car alarm is entered prior to the remote telephone disconnecting, the alarm calling tone will be heard. Press the "#" button to disconnect the first call. Press the "*" button to connect to the new calling car station.

c. Master To Remote Telephone

- 1) Press the master station dedicated to the ADTS. The ADTS will immediately dial the remote telephone. When answered, normal conversation can commence.

8. Functions of the Auto-Dialing Telephone System (ADTS)

a. Communication Test

- 1) The remote telephone can be used to test any car station by pressing the "*" button in any of the above mentioned conversation modes. A tone will be sent from the Central Exchange to the car, and picked up by the car's microphone and heard by the remote telephone. This will assure the remote caller that the circuit is working correctly.



- b. ADA Remote Test
- c. The elevator car station ADA light will flash when the remote telephone releases. Signage near the ADA light should read, "Flashing Light Message Received." The flashing "message received" light will continue to flash and can only be released by calling the ADTS, connecting to the car, then pressing the "*" button. See ADA Technical Specifications.
- d. Self Test
 - 1) 1) Approximately every 20 minutes, the ADTS will self test itself to the Central Exchange and advise if an error was detected by turning on the "OPR" LED.
- e. Operation LED's and Reset (ADTS Front Panel)

LED	LED Condition	Results
OPR	Slow flash No light or steady light	Normal Operation Internal error, press ADTS "Reset" Switch
CON	Steady light	Station connection from a master to ADTS or from car to ADTS
STA	Fast flash Steady	Alarm from car Car connects via ADTS to remote telephone
LINE	Steady light	When ADTS connects to telephone line

Provide for AUTOMATIC or REMOTE RESET to restart the auto dialing telephone system in case of signal problems or if system locks up for a predetermined number attempts to dial out without a response

9. Attic Stock (Intercom System)

Qty.	Description
1	Cabinet lock of each type used
1	Solid-state board of each type used
1	Power supply of each type used (Ferrups not included)
1	Master station of each type used
2	Button Boards of each type used
2	Electronic warblers, bells, horns and strobes of each type used
2	Car stations of each type used
5	Buttons and contacts of each type used
10	Fuses of each type used
10	Bulbs of each type used



10 Keys of each type used

10. Manufacturer

- a. The Intercommunication System shall be Teknicom ECS 300 with the Tele-Master TM400T or approved equal.

E. Emergency Alarm/Battery Back-up and Common Alarm Bell

1. Provide a new car-mounted battery unit including solid-state charger and testing means enclosed in common metal container.
 - a. The battery shall be rechargeable nickel cadmium with a 10-year minimum life expectancy.
 - b. The alarm bell shall be mounted directly to the battery/charger unit and connected to sound when any alarm push button or stop switch in the car enclosure is operated.
 - c. The bell shall be configured to operate from power supplied by the building emergency power generator.
2. Provide a new common alarm bell located in the elevator pit.
 - a. The bell shall be configured to operate when the alarm or stop switch of any elevator is activated, during both normal and battery back-up power conditions.
 - b. Existing common alarm bells may be rehabilitated and reused providing they meet the intent of this section and applicable codes.

F. Car Position Indicator

1. The position of the car in the hoistway shall be indicated by the illumination of the position indicator numeral corresponding to the floor at which the car has stopped or is passing.
 - a. Provide 2" high, 10-segment LED type position indicator with direction arrows, integral with the car operating panel.
 - b. Provide Lexan cover lens with hidden support frame behind fixture plate to protect the indicator readout.
 - c. Provide audible floor passing signal per ADA standards where not provided by the elevator signal control.
 - d. Flush mount fixture with cover to match selected car front or car operating panel finish as directed by the City of New York.

G. Car Direction Lantern

1. Provide a car riding lantern with visual and audible signal in the edge of the strike and/or return post.
2. The lens shall project a minimum of 1/4" and shall be of solid Plexiglas.
3. Use tamperproof screws.
4. Car lantern shall indicate the direction of travel when doors are 3/4 open.



5. The unit shall sound once for the "up" direction and twice for the "down" direction.

a. Provide an electronic chime with adjustable sound volume.

H. Corridor Push Button Station

1. Push button signal fixtures shall be provided on each landing.

2. Each signal fixture shall consist of:

a. An oversized flush-mounted faceplate.

b. Up and down illuminating push buttons measuring 3/4" at their smallest dimension as selected by the City of New York.

c. A recessed mounting box, electrical conduit and wiring.

3. Intermediate landings shall be provided with fixtures containing two (2) push buttons while terminal landings shall be provided with fixtures containing a single push button.

4. Include firefighter key switch in the main lobby level station or other designated recall landing.

5. Push button signal fixtures shall be mounted directly below the existing corridor stations at a centerline height of 42" above the floor and shall be installed both plumb and flush to the finished wall.

a. Existing corridor push button fixtures shall be removed.

b. Existing back boxes shall be retained and used to attach the oversized fixture faceplate.

1) The Contractor has the option of providing a single oversized back box in lieu of retaining existing for faceplate attachment.

6. All cutting, patching, grouting and/or plastering of masonry walls resulting from the removal or installation of corridor fixtures shall be performed by the Contractor so as to maintain the fire rating of the hoistway.

a. Finished painting or decorating of wall surfaces shall be by the Contractor

7. Provide card reader unit.

I. Car and Hall Call Buttons

1. Provide stainless steel/bronze convex type button as selected by the Commissioner from the manufacturer's premium line of push buttons.

a. The button shall have a collar with LED call registered light.

J. Hoistway Access Switch

1. Install a cylindrical type keyed switch at top terminal in order to permit the car to be moved at slow speed with the doors open to allow authorized persons to obtain access to the top of the car.



2. Where there is no separate pit access door, a similar switch shall be installed at the lowest landing in order to permit the car to be moved away from the landing with the doors open in order to gain access to the pit.
3. Locate the switch in the terminal floor entrance jambs without faceplate at a height of 78" above the finished floor.
4. This switch is to be of the continuous pressure spring-return type and shall be operated by a cylinder type lock having not less than a five (5) pin or five (5) disc combination with the key removable only in the "OFF" position.
 - a. The lock shall not be operable by any key which operates locks or devices used for other purposes in the building and shall be available to and used only by inspectors, maintenance men and repairmen in accordance with A17.1 applicable Security Group.
5. Existing provisions that meet the aforementioned criteria may be updated with keyed switches to match new apparatus provided for uniformity of systems within the building.

K. Lobby T.D.S.

1. Provide a new wall mounted lobby station with new control apparatus functions. Locate in adjacent to the existing Fire Command Station.
2. Provide new controls and signals for all existing and new functions specified herein, including position indicators for the elevators, communications master station (located behind vandal resistant transparent cover with magnetic strip locking), special features including motor-drive keyswitches, independent operation keyswitches, and car to lobby toggle switches. Provide all special feature devices and indicators behind vandal resistant transparent locked cover doors.

L. Lift-Net Elevator Management Information System

1. The data collection, data storage and real-time monitoring portion of the system shall be based on Microsoft Windows, and able to run on Windows NT 4.0, 2000, XP, Vista or later operating systems. Locate the system computer as per the City of New York direction.
2. The system shall:
 - a. Be network-based and be capable of interfacing with all makes and types of elevator control systems.
 - b. Collect data via either serial data link or hardwired interface connections.
 - c. Be capable of operating on any TCP/IP based network system including but not limited to Ethernet, Token Ring, Arc-net and Lift-Net.
 - d. Allow the addition of unlimited monitoring terminals on the network.
 - e. The system shall operate on land line or fiber optic.
3. Monitoring terminals shall operate "peer to peer" without a single server, and the failure of a single network device shall not affect the operation of the rest of the system.
4. The system shall provide multiple banks, including multiple buildings, on a single monitoring terminal screen.
5. All monitored banks shall be visible from any monitoring terminal on the network.



6. Entry into the network shall be multi-level password protected.
 - a. The system shall be capable of real time display of all monitored status points on all monitored equipment.
 - b. Fault and event notification screens and audible alarms shall be immediately displayed on selected monitoring stations.
 - c. Different fault and event tables shall be defined on a per-bank basis.
 - d. The system shall collect and store all status, fault and event information for later reporting and analysis.
 - e. The system shall provide statistical analysis of hall call response times, traffic patterns, fault conditions, service logs and security usage in graphical and tabular format.
 - f. The system shall maintain a record of every status point change occurring on the monitored equipment, and provide the ability to replay these events in a simulation at a later time in real time, slow speed, single step, reverse, or fast forward.
 - 1) This information shall be retained for a period of at least twenty-six weeks, and a mechanism shall be provided whereby this information may be archived.
 - g. The system shall store traffic, fault and statistical data for a period of at least three (3) years.
 - 1) The system shall log error type, car number, floor position and major system status points whenever a fault or logged event occurs.
 - h. The system shall provide interactive control of certain features provided in the elevator control system which may be revised as the requirements of the building change.
 - i. Interactive controls shall include but are not limited to:
 - 1) Security floor lockouts
 - 2) Entering car and hall calls
 - 3) Firefighter's return service
 - 4) Lobby recall
 - 5) VIP service
 - 6) Suspicious person / security return
 - 7) Up/Down peak
 - j. In the case of a power failure the system shall be capable of connecting to an emergency power back-up unit without the loss of any stored data.
7. The system will automatically re-boot the program and continue to operate after a power loss or other system malfunction.
8. The Elevator Monitoring Equipment shall have the following minimum characteristics:
 - a. Monitoring Station Hardware



- 1) Central processing unit - IBM compatible microcomputer - desk top or mini-tower (multiple machine rooms or lobby displays)
- 2) Type - Pentium or most current high-performance processor
- 3) Speed - most current high-performance
- 4) Internal hard drive - adequate storage for three years data for entire system
Modem - most current high-performance
- 5) Display - color, capable of simultaneous display of all monitored units
- 6) Printer - current HP Color Desk Jet Series
- 7) Keyboard - MS Windows compatible
- 8) Mouse - MS Windows compatible
- 9) Power requirements - 90 - 230 Volts AC 50 - 60Hz

b. Machine Room Hardware

- 1) Controller interface panels with high quality printed circuit boards
- 2) Input voltage range - 5 - 250V AC/DC
- 3) Compatible with all types and makes of controllers
- 4) Operating temperature range - 45 - 112 degrees Fahrenheit
- 5) Humidity range - 10% - 85% non-condensing
- 6) Modular design - capable of future expansion
- 7) Power requirements - 90 - 230 VAC 50 - 60Hz @ 3A

9. The system shall display and record the following information for each monitored unit: (The following is intended as a guideline - connections to each status point mentioned on every control system may be impractical. Serial data links may include many more points.)

- a. Group operational mode
- b. Multiple groups or buildings on the same screen
- c. In/out of service
- d. In/out of group service
- e. Emergency power
- f. Supervisory failure
- g. Location and direction of hall calls
- h. Individual car status - expandable menus
- i. Direction of travel
- j. Independent service
- k. Inspection service
- l. Fire service
- m. Position of elevator
- n. Door status (open, opening, closing, closed)
- o. Door dwell time
- p. Load by-pass
- q. Emergency power
- r. Power on/off
- s. Door detector
- t. Safety circuit
- u. Door zone
- v. Stop switch



- w. Alarm button
- x. Registered Car Calls

10. Keyboard, Mouse and time clock control capabilities

- a. Floor lockouts (car or hall)
- b. Lobby recall
- c. VIP service
- d. Firefighter's service
- e. Up/Down Peak
- f. User defined parameters (minimum eight (8) inputs)

11. Faults monitored with visual and audible alarm, triggered by combinations of any of the above status points

- a. Safety circuit
- b. Alarm bell
- c. Door reversal devise
- d. Earthquake
- e. At least six user selectable faults or events

PART 3 - EXECUTION

3.1 EXAMINATION

A. Inspection

1. Study the Contract Documents with regard to the work as specified and required so as to ensure its completeness.
2. Examine surface and conditions to which this work is to be attached or applied and notify the City of New York in writing if conditions or surfaces are detrimental to the proper and expeditious installation of the work. Starting the work shall imply acceptance of the surfaces and conditions to perform the work as specified.
3. Verify, by measurements at the job site, dimensions affecting the work. Bring field dimensions which are at variance with those on the accepted shop drawings to the attention of the City of New York. Obtain the decision regarding corrective measures before the start of fabrication of items affected.
4. Cooperate in the coordination and scheduling of the work of this section with the work of other sections so as not to delay job progress.

3.2 INSTALLATION / PROJECT PHASING

A. Installation

1. Modernize the elevators, using skilled personnel in strict accordance with the final accepted shop drawings and other submittals.
2. Comply with the code, manufacturer's instructions and recommendations.



3. Coordinate work with the work of other building functions for proper time and sequence to avoid delays and to ensure right-of-way of system. Use lines and levels to ensure dimensional coordination of the work.
4. Accurately and rigidly secure supporting elements within the shaftways to the encountered construction within the tolerance established.
5. Provide and install motor, switch, control, safety and maintenance and operating devices in strict accordance with the submitted wiring diagrams and applicable codes and standards having jurisdiction.
6. Arrange door tracks and sheaves so that no metal-to-metal contact exists.
7. Reinforce hoistway fascias to allow not more than 1/2" of deflection.
8. Install elevator cab enclosure on platform plumb and align cab entrance with hoistway entrances.
9. Sound isolate cab enclosure from car structure. Allow no direct rigid connections between enclosure and car structure and between platform and car structure.
10. Isolate cab fan from canopy to minimize vibration and noise.
11. Remove oil, dirt and impurities and give a factory coat of rust inhibitive paint to all exposed surfaces of struts, hanger supports, covers, fascias, toe guards, dust covers and other ferrous metal.
12. Pre-hang traveling cables for at least 24 hours with ends suitably weighted to eliminate twisting after installation.
13. After installation, touch up in the field, surfaces of shop primed elements which have become scratched or damaged.
14. Lubricate operating parts of system as recommended by the manufacturer.

B. Project Phasing

1. Phase I - Final design development and contractors' preliminary work procedures to be completed within three (3) weeks from date of contract award.
 - a. Prevailing conditions review and layout.
 - b. Selection meeting for aesthetic design and finishes with The Commissioner.
 - c. Filing for required permits or other NYCBC work procedure requirements.
2. Phase II - Submittal approvals and confirmations shall be completed within four (4) weeks from date of contract award.
 - a. Selection confirmations.
 - b. Manufacturer's shop drawings applicable, i.e., fixtures, cab, machine room layouts, doors, etc.
 - c. Engineering data acknowledgment applicable, i.e., power, heat, structural loads.
 - d. Delivery dates for major component suppliers, i.e., controls, machinery, fixtures, cabs, etc.
 - e. Posting of permits or the City of New York authorizations to proceed.
 - f. Proposed work implementation schedule based on the aforementioned procedures/confirmations.



3. Phase III - Mobilization of Final Design Approvals

- a. Revision confirmations. (Equipment, etc.)
- b. Preliminary work procedures.
- c. Schedule confirmations.

4. Phase IV – Implementation

- a. One elevator at a time. The City of New York will make selection at “Notice to Proceed”.

C. Removal of Elevators

1. If extenuating circumstances (i.e. separating controller interconnections, inspection, testing, etc.), require that multiple cars of a single elevator group be removed from service simultaneously, the work shall be performed outside of the normal business hours at a time mutually agreed to by the City of New York and Contractor.
2. A minimum of five (5) days advance written notice shall be given to the City of New York and the Commissioner by the Contractor detailing the reasons for the simultaneous removal of the elevators from service along with the estimated out-of-service time.
3. The request shall be subject to review by the Commissioner and approved by the City of New York prior to the commencement of the work.

3.3 FIELD QUALITY CONTROL

A. Inspection and Testing

1. Upon completion of each work phase or individual elevator specified herein, the Contractor shall, at its own expense, arrange and assist with inspection and testing as may be required by the State and The City of New York in order to secure a Certificate of Operation.

B. Substantial Completion

1. The work shall be deemed “Substantially Complete” for an individual unit or group of units when, in the opinion of the Commissioner, the unit is complete, such that there are no material and substantial variations from the Contract Documents, and the unit is fit for its intended purpose.
2. New York City Department of Building’s testing shall be completed and approved in conjunction with inspection for operation of the unit; a certificate of operation or other required documentation issued; and remaining items mandated for final acceptance completion are limited to minor punch list work not incorporating any life safety deficiencies.
3. The issuance of a substantial completion notification shall not relieve the Contractor from its obligations hereunder to complete the work.



4. Final completion cannot be achieved until all deliverables, including but not limited to training, spare parts, manuals, and other documentation requirements, have been completed.

C. Contractor's Superintendent

1. The Contractor shall assign a competent project superintendent during the work progress and any necessary assistant, all satisfactory to the City of New York. The superintendent shall represent the Contractor and all instructions given to him shall be as binding as if given to the Contractor.

3.4 PROTECTION AND CLEANING

A. Protection and Cleaning

1. Adequately protect surfaces against accumulation of paint, mortar, mastic and disfiguration or discoloration and damage during shipment and installation.
2. Upon completion, remove protection from finished surfaces and thoroughly clean and polish surfaces with due regard to the type of material. Work shall be free from discoloration, scratches, dents and other surface defects.
3. The finished installation shall be free of defects.
4. Before final completion and acceptance, repair and/or replace defective work, to the satisfaction of the City of New York, at no additional cost.
5. Remove tools, equipment and surplus materials from the site.

B. Barricades and Hoistway Screening

1. The Contractor shall provide whatever barricades are necessary in order to maintain adequate protection of areas in which work specified by the Contract Documents is being performed, including open hoistway entrances. Fabrication and erection as all barricades shall be in compliance with applicable OSHA regulations.
2. As required, the Contractor shall provide temporary wire mesh screening in the hoistway and of any elevator undergoing work specified in the Contract Documents. This screening shall be installed in such a manner as to completely segregate the hoistway from that of adjacent elevators. Screening shall be constructed from .041" diameter wire in a pattern that rejects passage of a 1" diameter ball.

3.5 DEMONSTRATION

A. Adjustment / Balance

1. Passenger elevators shall be adjusted to meet the following performance requirements:
 - a. Speed: within 2% static drive of rated speed under any loading condition.
 - b. Leveling: within 1/4" under any loading condition.
 - c. Typical Floor-to-Floor Time: (Recorded from the doors start to close on one floor until they are 3/4 open at the next floor.)



Passenger Elevators 10.5 seconds.

d. Door Operating Times

Door Type	Opening	Closing
Side opening	2.0 sec.	2.5 sec.

- e. Door dwell time for hall calls: 4.0 sec with Advance lantern signals
- f. Door dwell time for hall calls: 5.0 sec without Advance lantern signals
- g. Door dwell time for car calls: 3.0 seconds
- h. Reduced non-interference dwell time: 1.0 seconds.

2. Maintain the following ride quality requirements for the passenger elevators:

a. Noise levels inside the car shall not exceed the following:

- 1) Car at rest with doors closed and fan off - 40 dba.
- 2) Car at rest with doors closed, fan running - 55 dba.
- 3) Car running at high speed, fan off - 50 dba.
- 4) Door in operation - 60 dba.

b. Vertical and horizontal accelerations shall not exceed 14 milli-g and horizontal accelerations shall not exceed 20 milli-g.

- 1) The accelerometer used for this testing shall be capable of measuring and recording acceleration to nearest 0.01 m/s^2 (1 milli-g) in the range of $0-2 \text{ m/s}^2$ over a frequency range from 0-80 Hz with ISO 8041 filter weights applied. Accelerometer should provide contact with the floor similar to foot pressure, 60 kPa (8.7psi).

c. Amplitude of acceleration and deceleration shall not exceed 4.0 ft/sec^2 .

d. A sustained jerk shall not be more than twice the acceleration.

e. The rate of change in the acceleration/deceleration rate shall not be greater than 8.0 ft/sec^3 .

B. Acceptance Testing

- 1. Comply with the requirements of the General Conditions.
- 2. The Contractor shall provide at least five (5) days prior written notice to the City of New York and the Commissioner regarding the exact date on which work specified in the Contract Documents will reach completion on any single unit of vertical transportation equipment.



3. In addition to conducting whatever testing procedures may be required in order to gain approval of the completed work, and before seeking approval of said work by the city of New York, the Contractor shall perform certain other tests in the presence of the Commissioner.
4. The Contractor shall provide test instruments, test weights, and qualified field labor as required to safely operate the elevator under load conditions that vary from empty to full rated load and, in so doing, to successfully demonstrate compliance with applicable performance standards set forth in the project specifications with regard to:
 - a. Operation of safety devices.
 - b. Sustained high-speed velocity of the elevator in either direction of travel.
 - c. Brake-to-brake running time and floor-to-floor time between adjacent floors.
 - d. Floor leveling accuracy.
 - e. Door opening/closing and dwell times.
 - f. Ride quality inside the elevator car.
 - g. Communication system.
 - h. Load settings at which anti-nuisance, load dispatch, and load non-stop features are activated.
5. Upon completion of work specified in the Contract Documents on the last car in any group of elevators, and in conjunction with the aforementioned testing procedures, the Contractor shall carry out additional testing of group dispatch/supervisory control features in the presence of the Commissioner.
6. The Contractor shall provide test instruments and qualified field labor as required to successfully demonstrate:
 - a. The back-up operating mode for group dispatch failure
 - b. Simulated and actual emergency power operation
 - c. Firefighter, attendant and independent service operations
 - d. Restricted access security features and card reader controls
 - e. Zoning operations and floor parking assignments
 - f. Up/down peak operation
7. After hour tests of systems such as emergency generators, fire service, and security systems shall be conducted at no extra cost to the City of New York.

END OF SECTION 142123



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Project ID No. - CO277ELV2

SECTION 22 00 02

PLUMBING GENERAL CONDITIONS

PART 1- GENERAL

1.1 RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project:
1. The Contract Drawings,
 2. The Specifications,
 3. The General Conditions,
 4. The Addendum, and
 5. The Contract [City of New York Standard Construction Contract].

1.2 DESCRIPTION

- A. The General and Supplementary Conditions accompanying these Specifications are hereby made a part of the requirements for the work under this Division of the Specification.

1.3 WORK INCLUDED

- A. Provide labor and materials required to install, test and place into operation the plumbing systems as called for in the contract documents, and according to applicable codes and regulations.
- B. Furnish and install all labor, materials, apparatus, and appliances essential to the complete functioning of the systems described and/or indicated herein, or which may be reasonably implied as essential whether mentioned in the Contract Drawings and Specifications or not.

1.4 SUBMITTALS

- A. Submit all shop drawings, manufacturer's data, samples and test reports as called for hereinafter.
- B. Submit a single guarantee stating that all parts of the work are in accordance with Contract requirements. Guarantee work against faulty and improper material and workmanship for a period of one (1) year from date of final acceptance by the Commissioner, except that where guarantees or warranties for longer terms are specified herein, such longer term to apply. Within 24 hours after notification, correct any deficiencies which occur during the guarantee period at no additional cost to the City of New York, to the satisfaction of the

Commissioner. Obtain similar guarantees from subcontractors, manufacturers, suppliers and subtrade specialists.

1.5 QUALITY ASSURANCE

- A. Comply with current governing codes, ordinances and regulations, as well as with requirements of EPA, U.L. and all other applicable codes.
- B. Comply with the requirements of agencies or authorities having jurisdiction over any part of the work and secure all necessary permits.
- C. Where codes or standards are listed herein, the applicable portions apply.
- D. Plans, specifications, codes and standards are minimum requirements. Where requirements differ, apply the more stringent.
- E. Should any change in plans or specifications be required to comply with governing regulations, notify the Commissioner.
- F. Execute work in strict accordance with the best practices of the trades in a thorough, substantial, workmanlike manner by competent workmen. Provide a competent, experienced full-time Superintendent who is authorized to make decisions on behalf of the Contractor.

1.6 ABBREVIATIONS AND DEFINITIONS

A. Abbreviations

- | | | |
|-----|----------|---|
| 1. | AGA | American Gas Association |
| 2. | ANSI | American National Standards Institute |
| 3. | ASME | American Society of Mechanical Engineers |
| 4. | ASPE | American Society of Plumbing Engineers |
| 5. | ASTM | American Society For Testing and Materials |
| 6. | ASSE | American Society of Sanitary Engineers |
| 7. | AWWA | American Water Works Association |
| 8. | EPA | Environmental Protection Agency |
| 9. | FM (FMS) | Factory Mutual (Factory Mutual System) |
| 10. | FS | Federal Specifications |
| 11. | NEMA | National Electrical Manufacturers Association |
| 12. | NFPA | National Fire Protection Association |



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- 13. OSHA Occupational Safety and Health Administration
- 14. U.L. Underwriters Laboratories

PART 2 - PRODUCTS

2.1 EQUIPMENT AND MATERIALS

- A. If products and materials are specified or indicated on the Drawings for a specific item or system, use those products or materials. If products and materials are not listed in either of the above, use first class products and materials, subject to approval of the Commissioner.
- B. Provide products and materials that are new, clean, free of defects and free of damage and corrosion.
- C. All products and materials used in this project will not contain asbestos, P.C.B.'s or any other material which is considered hazardous by the Department of Environmental Protection or any other agency having jurisdiction.
- D. Replace materials of less than specified quality as designated by the Commissioner and relocate work incorrectly installed as determined by the Commissioner.
- E. Provide name/data plates on all components of equipment with manufacturer's name, model number, serial number, capacity data and electrical characteristics attached in a conspicuous place.
- F. Install materials and equipment with qualified trades people.
- G. Maintain uniformity of manufacture for equipment used in similar applications and sizes.
- H. Applicable equipment and materials to be listed by Underwriters' Laboratories and manufactured in accordance with ASME, AWWA, or ANSI standards, and as approved by local authorities having jurisdiction.
- I. Fully lubricate equipment when installed.
- J. Do not operate gas, or water systems until piping has been cleaned and startup strainers are in place.
- K. Locate all floor mounted equipment on a 4" high concrete pad. Concrete work to be provided by the Contractor. Coordinate size and location with the Contractor providing concrete pads.
- L. Secure equipment with bolts, washers and locknuts of ample size to support equipment. Embedded anchor bolts to have bottom plate and pipe sleeves.

Grout machinery set in concrete under the entire bearing surface. After grout has set, remove wedges, shims and jack bolts and fill space with grout.

- M. Locate valves, traps, damper operators, access doors, etc., to be easily accessible, either in mechanical spaces or through access panels as specified hereinafter, or as required. Coordinate and obtain Commissioner's and Engineer's approval of access panel locations.
- N. Follow manufacturers' instructions for installing, connecting, and adjusting equipment. Provide one copy of such instructions to the Engineer before installing any equipment. Provide a copy of such instructions and attach to the equipment during work on the equipment.
- O. Pressure vessels and relief valves shall be selected, built and labeled in accordance with ASME. Obtain a certificate from the City Inspector having jurisdiction showing such acceptance, and mount this certificate in a black frame under glass or laminated plastic adjacent to each pressure vessel and relief valve.
- P. Where factory testing of equipment is required to ascertain performance and attendance by the Commissioner's representative is required to witness such tests, associated travel costs and subsistence shall be borne by the Contractor.
- Q. Equipment capacities, etc., are scheduled or specified for job site operating conditions. Equipment sensitive to altitude shall be derated with the method of derating identified on shop drawings.

2.2 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

- A. After notice to proceed by the Commissioner, or after execution of City of New York/Contractor Agreement, submit to the Engineer for review, a complete typed list of all mechanical equipment manufacturers and material suppliers for the equipment intended to be furnished and installed on this project as well as names of all subcontractors.
- B. After notice to proceed by the Commissioner, prepare an index of all submittals for the project. Include a submittal identification number, a cross-reference to the Specification sections or Drawing number, and an item description. Prefix the submittal identification number by the Specification sections to which they apply. Indicate on each submittal, the submittal identification number in addition to the other data specified. All subcontractors will utilize the assigned submittal identification number.
- C. After the Contract is awarded, obtain complete shop drawings, product data and samples from the manufacturers, suppliers, vendors, and all subcontractors, for all materials and equipment specified in the various sections of the specification. Submit data and details of such materials and equipment for review by the Engineer. Prior to submission of the shop drawings, product data and samples to the Engineer, review and certify that these items are in compliance with the Contract Documents. Check all materials and equipment upon their arrival on the job site and verify their compliance with the Contract Documents. Modify any work which proceeds prior to receiving accepted shop drawings as required to



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comply with the Contract Documents and the shop drawings, at no cost to the project.

- D. Prior to fabrication or installation of any work, completely coordinate work of all trades and prepare a complete set of Coordination Drawings.

PART 3 - EXECUTION

3.1 DRAWINGS & PRODUCT DATA

- A. Submit materials and equipment by manufacturer, trade name and model number. Include copies of applicable brochure or catalog material. Do not assume applicable catalogs are available in the Engineer's office. Maintenance and operating manuals are not suitable substitutes for shop drawings.
- B. Identify each sheet of printed submittal pages (using arrows, underlining or circling) to show applicable sizes, types, model numbers, ratings, capacities and options actually being proposed. Cross out non-applicable information. Note specified features such as special tank linings, pump seals, materials or painting.
- C. Include dimensional data for roughing in and installation, technical data sufficient to verify that equipment meets requirements of drawings and specifications. Include wiring, piping and service connection data, motor sizes complete with voltage ratings and schedules.
- D. Maintain a complete set of reviewed and stamped shop drawings and product data on site.
- E. Prepare and submit detailed shop drawings for piping work and other distribution services in $3/8" = 1'-0"$ scale, including locations and sizes of openings in floor decks, walls and roofs.
- F. The Contractor is not relieved of the responsibility for dimensions or errors that may be contained on submissions reviewed by the Engineer, or for deviations from requirements in the Contract Documents. Understand clearly that the Engineer's noting some errors but overlooking others does not grant the Contractor permission to proceed in error. Regardless of any information contained in the shop drawings, product data and samples, the Contract Documents govern the work and are neither waived nor superseded in any way by the review of shop drawings, product data and samples.
- G. Inadequate or incomplete shop drawings, product data and/or samples will not be reviewed by the Engineer and will be returned to the Contractor for resubmittal.
- H. Indicate in the lower right hand corner of each shop drawing, and each product data brochure on the front cover, the following: The submittal identification number; title of the sheet or brochure; name and location of the Project; names of the Commissioner, Engineer, Contractor, Subcontractor, manufacturer,



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supplier, and vendor; the date of submittal; and the date of each correction and version and revision. Number all pages and drawings in product data brochures consecutively from beginning to end. Unless the above information is included, the submittal will be returned for resubmission. Include with resubmittals of product data or brochures a cover letter summarizing the corrections made in response to the review comments and the submittal page numbers which were revised.

3.2 COORDINATION OF WORK

- A. The plumbing drawings show the general arrangement of equipment, piping and appurtenances. Follow these drawings as closely as the actual construction and the work of other trades will permit. Provide offsets, fittings, and accessories which may be required but not shown on the drawings. Investigate the site, structural and finish ground conditions affecting the work, and arrange the work accordingly. Provide such work and accessories as may be required to meet such conditions, at no additional cost to the project.
- B. Carefully check space requirements with other trades to insure that material can be installed in the spaces allotted thereto with sufficient access space, including finished suspended ceilings.
- C. Wherever work interconnects with work of other trades, coordinate with other trades. Insure that they have the information necessary so that they may properly install the necessary connections and equipment. Identify items (valves, cleanouts, etc.) requiring access in order that the Ceiling Trade will know where to install access doors and panels.
- D. Consult with other trades regarding equipment so that, wherever possible, motors, motor controls, pumps and valves are of the same manufacturer.
- E. Furnish and set sleeves for passage of pipes, ducts and conduits through structural masonry and concrete walls and floors and elsewhere as will be required for the proper protection of each pipe and duct passing through building surfaces.
- F. Properly provide firestopping around all pipes, sleeves, etc., which pass through rated walls, partitions and floors.
- G. Provide detailed information on openings and holes required in precast members for mechanical work. Cast holes 4 inches and larger in diameter. Field-cut holes smaller than 4 inches.
- H. Provide required supports and hangers for ductwork, piping and equipment, designed so as not to exceed allowable loadings of structures.
- I. Wherever the work is of sufficient complexity, prepare additional detail drawings to scale similar to that of the design drawings, prepared on tracing medium of the same size as contract drawings. With these layouts, coordinate the work with the work of other trades. Such detailed work to be clearly identified on the drawings as to the area to which it applies. Submit these drawings to the



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Engineer for review. At completion include a set of such drawings with each set of as-built drawings.

- J. Before commencing work, examine adjoining work on which this work is in any way dependent for perfect workmanship and report conditions which prevent performance of first class work. Become thoroughly familiar with actual existing conditions to which connections must be made or which must be changed or altered.
- K. Adjust location of pipes, panels, equipment, etc., to accommodate the work to prevent interferences, both anticipated and encountered. Determine the exact route and location of each pipe and duct prior to fabrication.
 - 1. Right-of-Way: Lines which pitch have the right-of-way over those which do not pitch. For example: condensate, steam, and plumbing drains normally have right-of-way. Lines whose elevations cannot be changed have right-of-way over lines whose elevations can be changed.
 - 2. Make offsets, transitions and changes in direction in pipes and ducts as required to maintain proper head room and pitch on sloping lines. Furnish and install traps, air vents, drains, etc., as required to effect these offsets, transitions and changes in direction.
- L. In cases of doubt as to the work intended, or in the event of need for explanation thereof, request supplementary instructions from the Commissioner.

3.3 CUTTING AND PATCHING

- A. Lay out the work in advance, fully coordinated with other trades. Where cutting, channeling, chasing or drilling of floors, walls, partitions, ceilings or other surfaces is necessary for the proper installation, support or anchorage of ductwork, piping or other equipment, do the work carefully so as not to damage adjacent work. Repair any damage to the building, piping, equipment or defaced finish plaster, woodwork, metalwork, etc., using skilled mechanics of the trades involved at no additional cost to the City of New York.
- B. Do no cutting, channeling, chasing or drilling of unfinished masonry, tile, etc., unless permission from the Architect is first obtained. If permission is granted, perform this work in a manner approved by the Commissioner.
- C. Where piping or equipment are mounted on a painted finished surface, or a surface to be painted, paint to match the surface. Cold galvanize bare metal whenever support channels are cut.
- D. Provide slots, chases, openings and recesses through floors, walls, ceilings, and roofs as required to properly install work. Be responsible to properly locate such openings and provide for any cutting and patching caused by the neglect to do so.



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3.4 RESPONSIBILITY FOR EVALUATION

- A. The Engineer makes no representations, regarding the character or extent of the subsoils, water levels, existing structural, mechanical and electrical installations, above or below ground, or other subsurface conditions which may be encountered during the work. The Contractor must make his own evaluation of existing conditions which may affect methods or cost of performing the work, based on his own examination of the facility or other information. Failure to examine the drawings or other information does not relieve the Contractor of his responsibility for satisfactory accomplishment of the work.

3.5 EQUIPMENT PAD AND ANCHOR BOLTS

- A. Concrete pads for various pieces of equipment will be furnished by the General Contractor under another Division. Pads will be provided in all mechanical equipment rooms. This shall include floor mounted equipment, equipment mounted on legs and pipe support stands. Generally conform equipment pads to the shape of the piece of equipment it serves with a minimum 3" margin around the equipment and supports. Pads will be a minimum of 4" high and made of a minimum 28 day, 2500 psi concrete reinforced with 6" x 6" 6/6 gauge welded wire mesh. Trowel tops and sides of pad to smooth finishes, equal to those of the floors, with all external corners bullnosed to a 3/4" radius. Use shop drawings stamped "NO EXCEPTIONS" for dimensional guidance in sizing pads.
- B. Furnish and install galvanized anchor bolts for all equipment placed on concrete equipment pads, inertia blocks, or on concrete slabs. Provide bolts of the size and number recommended by the manufacturer of the equipment and locate by means of suitable templates. When equipment is placed on vibration isolators, secure the equipment to the isolator and secure the isolator to the floor, pad, or support as recommended by the vibration isolation manufacturer.
- C. Where control panels, motor controllers, etc., are mounted on gypsum board partitions, the mounting screws will pass through the gypsum board and be securely attached to the partition studs. At the Contractor's option, the mounting screws may pass through the gypsum board and be securely attached to 6" square, 18 gauge galvanized metal backplates which are attached to the gypsum board with an approved non-flammable adhesive. Toggle bolts installed in gypsum board partitions will not be acceptable.

3.6 DELIVERY, DRAYAGE AND HAULING

- A. Include all drayage, hauling, hoisting, shoring and placement in the building of equipment specified herein. Be responsible for the timely delivery and introduction of equipment to the project as required by the construction schedule for this project. If any item of equipment is received prior to the time it is required, be responsible for its proper storage and protection until such time as it may be required. Pay for all costs of demurrage or storage.
- B. If any item of equipment is not delivered to or installed at the project site in a timely manner as required by the project construction schedule, be solely responsible for disassembly, re-assembly, manufacturer's supervision, shoring,



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general construction modification, delays, overtime costs, etc. No additional cost or delays to be incurred by the Owner.

3.7 EQUIPMENT AND MATERIAL PROTECTION

- A. Protect the work, equipment and materials from damage and correct all damage thus caused without additional cost to the City of New York.
- B. Be responsible for all work, materials and equipment until finally inspected, tested and accepted; protect work against theft, injury or damage; and carefully store material and equipment received on site which are not immediately installed. Close open ends of work with temporary covers or plugs during construction to prevent entry of obstructing material. Cover and protect in an acceptable manner to the Commissioner, all equipment and materials from damage due to water, spray-on fireproofing, construction debris, etc.
- C. Provide adequate means for fully protecting finished parts of the materials and equipment against damage from whatever cause during the progress of the work until final acceptance. Protect materials and equipment in storage and during construction in such a manner that no finished surfaces will be damaged or marred, and moving parts kept clean and dry. If items are damaged, do not install, but take immediate steps to obtain replacement or repair.

3.8 ELECTRICAL EQUIPMENT AND ELECTRICAL ROOM PRECAUTIONS

- A. In general, do not install any piping systems not included as part of the electrical work, in any switchgear, transformer, elevator equipment, telephone, or electrical equipment room.
- B. Do not install piping above switchboards, panelboards, control panels, motor control centers, individual motor controllers, etc.
- C. Provide drip pans under all piping installed in any electrical equipment room. Pan shall be water tight, extending 4" in each direction from the pipe wall and turned up at least one-half the diameter of the pipe, but not less than 2". The pan shall extend at least 1 foot beyond the electrical equipment. Provide a drain pipe to spill into floor drain or service sink.

3.9 EQUIPMENT GUARDS

- A. Provide easily removable expanded metal guards for all moving parts of machinery. Provide tachometer openings in the guards at least 2" in diameter, for all belt-driven or variable speed machinery. Comply with OSHA requirements for all equipment guards.

3.10 LUBRICATION

- A. Provide means for lubricating all bearings and other machine parts. If a part requiring lubrication is concealed or inaccessible, extend a metallic lubrication tube with suitable fitting to an accessible location and suitably identify it.

- B. After installation, properly lubricate all parts requiring lubrication and keep them adequately lubricated with a lubricant recommended by the equipment manufacturer until the Commissioner issues a Certificate of Substantial Completion for the specific equipment item or system.

3.11 DATE OF COMPLETION AND TESTING OF MECHANICAL SYSTEMS

- A. Comply with the project construction schedule for the date of final performance and acceptance testing, and be sufficiently in advance of the Contract completion date to permit the execution of the testing prior to occupancy and the closeout of the Contract. Complete any adjustments and/or alterations which the final acceptance tests indicate as necessary for the proper functioning of all equipment prior to the completion date. See individual sections for extent of testing required.

3.12 OPERATING INSTRUCTIONS

- A. Provide the services of a factory trained specialist to supervise the operation of all equipment specified herein and to instruct the Commissioner's operators for a five (5) day operating instruction period. The operating instruction period is defined as straight time working hours and not including nights, weekends or travel time to and from the project. See individual sections for additional instructions by manufacturer's trained specialists.
- B. Notify the Commissioner in writing at least two (2) weeks before each operating instruction period begins. Commence no instruction period until the Commissioner has issued his written acceptance of the starting time.

3.13 OPERATING AND MAINTENANCE BOOKS

- A. Provide operating instructions and maintenance data books for all equipment and materials furnished under this Division.
- B. Submit three (3) final copies of operating and maintenance data books for review at least ten (10) weeks before final review of the project. Assemble all data in a completely indexed volume or volumes in three-ring binders and identify the size, model, and features indicated for each item. Print the project name and logo on the outside of the binders.
- C. Deliver two (2) initial copies of the operation and maintenance data books to the Engineer six (6) months after notice to proceed has been given by the Commissioner or Commissioner's Representative. Include in the initial copies all the information in Paragraph E. below, except Item E.4.
- D. Maintenance instruction manuals to include complete oiling, cleaning, and servicing data compiled in clearly and easily understandable form. Show all model numbers of each piece of equipment, complete lists of replacement parts, motor ratings, and actual loads.
- E. Include the following information where applicable:



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1. Identifying name and mark number.
2. Locations (where several similar items are used, provide a list).
3. Complete nameplate data.
4. Certified Record Drawings and "Final Reviewed" Shop Drawings.
5. Parts list.
6. Performance curves and data.
7. Wiring diagrams.
8. Lubrication charts.
9. Manufacturers' recommended operating and maintenance instructions with all non-applicable information deleted.
10. List of spare parts recommended for normal service requirements.
11. Assembly and disassembly instructions with exploded view drawings where available.
12. Trouble shooting diagnostic instructions where applicable.

3.14 FINAL REVIEW

- A. At a time designated by the Commissioner, the entire system will be reviewed for compliance with the Contract Drawings and Specifications. Be available at all times during this review.
- B. Demonstrate to the Commissioner and/or the Engineer's personnel prior to the Final Review that all systems and all equipment have been properly balanced and adjusted and are in compliance with the requirements of the Contract Documents. After these demonstration tests are satisfactorily completed, but prior to the Final Review field visit, the Contractor will submit to the Engineer a written certification that: 1) attests to the Contract Document compliance for this Project prior to the Engineer's Final Review field visit, and 2) certifies that the equipment and materials installed in this project under this Division contain no asbestos or P.C.B.
- C. Operate the entire system properly with all systems balanced and all controls adjusted.
- D. Certificates and Documents required herein to be in order and presented to the Engineer at least two (2) weeks prior to the Final Review.
- E. After the review, any changes or corrections noted as necessary for the work to comply with these specifications and the Drawings to be accomplished without delay in order to secure final acceptance of the work.



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END OF SECTION



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SECTION 22 05 23

VALVES

PART 1- GENERAL

1.1 RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project:
 - 1. The Contract Drawings,
 - 2. The Specifications,
 - 3. The General Conditions,
 - 4. The Addendum, and
 - 5. The Contract [City of New York Standard Construction Contract].

1.2 DESCRIPTION

- A. Provide valves in accordance with the Contract Documents.

1.3 WORK INCLUDED

- A. Globe Valves.
- B. Check Valves.
- C. Ball Valves.
- D. Plug Valves.
- E. Drain Valves.

1.4 SUBMITTALS

- A. Manufacturers' Specifications and Engineering Data
 - 1. Each type valve.
 - 2. Materials of all parts.
 - 3. Pressure ratings.
 - 4. Schedule of valves, locations, application and pressure rating.
 - 5. Certificates: Manufacturers' certification that valves and accessories meet or exceed specification requirements.



1.5 QUALITY ASSURANCE

- A. Each valve shall have the manufacturer's name, size, direction of flow arrow and pressure rating cast or stamped on body.
- B. Listed below are references to the specification, standards or recognized authorities to which valves must conform to be acceptable. All references shall be the latest edition in effect at the time of opening of Bids. Local codes must be complied with, such as New York City Board of Standards and Appeals.

ITEM	STANDARDS NUMBER
Valve Identification	MSS-SP-25
Cast-Iron Valves	MSS-SP-70, 71
Bronze Valves	MSS-SP-80
Globe Valves	MSS-SP-85
Ball Valves	MSS-SP-110
Swing Check Valves	ANSI/ASTM B-62 ANSI/ASTM A-126 Grade B

PART 2- PRODUCTS

2.1 GENERAL

- A. All domestic water control valves within the building shall be gate, ball, globe or butterfly valves. All valves shall have the name of the manufacturer and working pressure cast or stamped thereon.
- B. All valves shall be with threaded or flanged ends as required by the piping system in which they are installed. In order to prevent dezincification no forged or yellow brass bodies or stems shall be accepted on ball, gate, globe and check valve.
- C. Valves shall be selected for the maximum working pressure to which the valve may be subject.
- D. All domestic water balancing valves shall be circuit setter type.
- E. Adapters shall be provided on all threaded valves installed in the copper water piping system.
- F. Where a manufacturer produces all types of valves, all valves shall be of the same manufacturer.
- G. All valves of the same type shall be supplied by one manufacturer.



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2.2 VALVE SCHEDULE

- A. Unless otherwise indicated, the valves tabulated on the Valve Schedule on drawings have been selected from the catalog of The Nibco Valve Co., and are representative of the design, materials and working features desired.

1. Domestic Water System

a. Ball Valves:

Size	End	Figure No.	PSIG W.O.G.	Material	Spindle
2" & Smaller	Thread	0860	600	Bronze	Full Post-
2 1/2" & 3"	Thread	T-580-70-66	600	Bronze	Reinforced Teflon Seat

b. Balancing Globe Valves:

Size	End	Figure No.	PSIG W.O.G.	Material	Spindle
1/2" - 3/4"	Solder	S-1709*	125	Brass	Non-Rising Stem
1"-2"	Solder	S1710*	240	Brass	Non-Rising Stem

* Based on NIBCO

c. Check Valves:

Size	End	Figure No.	PSIG W.O.G.	Material
2 1/2" & Smaller	Thread	T-413	200	Bronze
3" & Larger	Flange	F-918-B	200	IBBM
3" & Larger	Flange	F-968-B	500	IBBM

Notes:

1. Provide operating wrenches for all size valves. Attach wrench to each valve on sizes up through 1".
2. 1/2" and 3/4" A.G.A. approved ball valves with square nut head may be used.

B. Shut-Off Valves

1. 2 Inches and Smaller: Bronze non-rising stem gate type, 125 psi wsp.



- a. Threaded ends, similar to NIBCO T-113.
- b. Wheel handle and extension rod or 1½" operating nut.
2. 2 Inches and Smaller: Brass plug type, Teflon coated plug and top and bottom "O" rings, 175 psi wwp.
 - a. Similar to Mueller No. H-15201 or No. H-10291.
 - b. Provide extension rod.

2.3 ACCEPTABLE MANUFACTURERS

A. Gate Valves, Globe Valves & Check Valves

1. Milwaukee
2. Stockham
3. Nibco
4. Kennedy

B. Ball Valves

1. Milwaukee
2. Stockham
3. Apollo
4. Nibco
5. Kennedy

C. Plug Valves

1. Rockwell-Nordstrom
2. Walworth
3. Stockham

PART 3 - EXECUTION

3.1 INSTALLATION

- A. All valves shall be installed only in the upright vertical or horizontal positions unless specifically otherwise required by the drawings.



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- B. All valves shall be installed in accessible locations to facilitate easy removal for repair or replacement.
- C. All valves with pilot control systems shall have drains piped to floor drains.
- D. When using circuit setter valves the contractor shall provide to the City of New York a differential pressure test kit for measuring flow across the valves.

END OF SECTION



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SECTION 22 05 29

HANGERS, SUPPORTS, ANCHORS, GUIDES, AND SEISMIC RESTRAINT

PART 1- GENERAL

1.1 RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project:
 - 1. The Contract Drawings,
 - 2. The Specifications,
 - 3. The General Conditions,
 - 4. The Addendum, and
 - 5. The Contract [City of New York Standard Construction Contract].

1.2 DESCRIPTION

- A. Work of this Section shall conform to the requirements of the Contract Documents.

1.3 WORK INCLUDED

- A. Hangers equipment.
- B. Supports
- C. Seismic Restraints.

1.4 SUBMITTALS

- A. Manufacturer's literature, catalog data and illustrations.
- B. Shop Drawings indicating:
 - 1. Dimensions
 - 2. Construction details of hangers, inserts, anchors and guides
 - 3. Materials
 - 4. Maximum Load
 - 5. Locations
 - 6. Recommended installation procedures



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1.5 QUALITY ASSURANCE

A. Codes and Authorities

1. Federal Specification WW-H171b
2. ASA Code for Pressure Piping
3. ASTM A-575-73
4. MSS SP-58-67
5. MSS SP-69-66
6. Underwriters Laboratories
7. Local Plumbing Code

PART 2- PRODUCTS

2.1 HANGERS

- A. All bracket, clamp and rod sizes indicated in this specification are minimum sizes only. All structural hanging materials shall have a built-in safety factor of 5.
- B. Provide pipe roller support where longitudinal movement due to expansion and contraction may occur.
- C. Pipe Hanger Schedule

	Carpenter & Patterson 'Witch'	Grinnell	I. R. Rauch's & Sons
C-Clamp with Retaining Clip and Locknut (pipe sizes 2" & smaller)	47 with 22	86 with 89	47 with 22
Beam Clamp	293	228	82
Multi-J Hook	---	---	228
J Hook	---	---	221
Clevis Hanger	100	260	100
Clevis Hanger w/Saddle	100SH	---	100SH
180° Shield	265P	168	265P
Single Rod Roll Hanger	140	181	140



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	Carpenter & Patterson 'Witch'	Grinnell	I. R. Rauch's & Sons
Double Rod Roll Hanger	142	171	142
Trapeze	---	46	1600-1700
U-bolt Adjustable Pipe	283	137C	283
Stanchion Saddle	247	259	247
Welded Steel Bracket	84 or 139	199 or 195	84 or 139
Riser clamp	126	261	126
Welded Beam Attachment	113A	66	---
Welded Beam Attachment w/bolt & nut	113B	66	113A
Concrete Insert	108	282	180 or 181
Phillips Inserts	513	Phillips Insert	1000

D. Hanger Rod Schedule

Pipe Size	Rod Diameter
2" and smaller	3/8"
2-1/2" - 3-1/2"	1/2"
4" - 5"	5/8"
6"	3/4"
8" - 12"	7/8"

E. Acceptable Manufacturers

1. I. R. Rauch's & Sons
2. Grinnell Company, Inc.
3. Carpenter & Patterson

2.2 FOUNDATIONS

- A. All equipment, piping, etc., shall be mounted on approved foundations, all as specified herein, or as shown on the drawings.
- B. All floor-mounted equipment shall be erected on 4" high concrete pads, provided under a separate section of the specifications, over the complete floor area of the equipment, unless specified to the contrary herein. Hereinafter, wherever vibration eliminating devices and/or concrete inertia blocks are specified, these



items shall in turn be mounted upon aforementioned pads unless specified to the contrary herein.

2.3 SEISMIC RESTRAINTS

- A. All piping systems shall be braced to withstand a $\frac{1}{2}$ "g" seismic acceleration. Spacing of bracing is to be as follows:
1. Piping, schedule 10, 20 or 40 welded, braced at a maximum of 40 foot intervals and at turns of more than 4 feet.
 2. Lateral bracing at 80 foot intervals.
 3. No hub piping to be braced at 20 or 40 foot intervals using appropriately rated seismic couplings.
 4. Seismic restraints are not required on the following:
 - a. Gas piping less than 1" I.D.
 - b. Piping in Mechanical equipment rooms less than 1-1/4" I.D.
 - c. Other piping less than 2-1/2" I.D.
 - d. All clevis hung pipe suspended by individual non-friction hanger designed to support the imposed static load and the anticipated $\frac{1}{2}$ "g" seismic acceleration 12" in length or less from the top of the pipe support to the bottom of the support for the hanger.
 5. Overstress of the building structure must not occur. Seismic bracing may occur from:
 - a. Flanges and structural beams.
 - b. Cast in place inserts or drilled and shielded inserts in concrete structures.

PART 3 - EXECUTION

3.1 INSTALLATION

A.

Hanger Spacing Schedule			
Piping Material	Pipe Size	Maximum Hanger Spacing	Remarks
Cast iron (hub and spigot)	All sizes	5 feet	Provide hanger behind each hub.



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Hanger Spacing Schedule			
Piping Material	Pipe Size	Maximum Hanger Spacing	Remarks
Cast iron (hubless)	All sizes	5 feet	Provide hanger at each side of every joint.
Copper	1¼" and less	6 feet	
Copper	1½" and larger	10 feet	
Steel	All	10 feet	Provide hanger at each mechanical joint.
Note: Restraint assemblies consisting of pipe clamps, rods and nuts shall be fitted to each hubless vertical to horizontal fitting. Sway bracing must be provided for above ground piping 6" or larger.			

- B. For flat slab construction only, support hangers from concrete inserts. Furnish, locate and set such inserts and make sure that such inserts are in place when the concrete is poured. Construct inserts of malleable iron or pressed steel with space for rods of all sizes. Install all inserts for pipes 3" and larger in size with a reinforcing rod ½" in diameter run through a slot in the insert specifically provided for this purpose.
- C. Regardless of the type of construction (i.e., concrete, concrete-deck-steel or other variations) take particular care to support all main lines and all large and heavy pipes in an approved manner, including the furnishing and installation of supplementary steel, if required. Supplementary steel sections are to be mill-rolled. Submit shop drawings, indicating support methods, point loadings to the building structure and hanger locations for review sufficiently in advance of concrete pouring schedules to permit evaluation, critique and any necessary changes to handling and support methods.
- D. Set all inserts for all pipes in ample time to allow concrete work to be performed on scheduled time.
- E. Smaller pipes may be suspended from crosspieces of pipe or steel angles, which in turn are to be securely fastened to building beams. The intention is to provide supports which, in each case, will be amply strong and rigid for the load, but which will not weaken or unduly stress the building construction.
- F. Provide approved roller support, floor stands, wall brackets, etc., for all lines running near the floor or near walls, which can be properly supported or suspended by the floors or walls. Pipelines near walls may also be hung by hangers carried from approved wall brackets at a level higher than the pipe.
- G. Do not hang piping from other piping. Support of hangers by means of vertical expansion bolts is not permitted.



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- H. Support Locations for Vertical Piping
 - 1. Cast Iron Soil Piping: At every floor and at its base, but in no case greater than 20-foot intervals.
 - 2. Copper Tubing and Steel Pipe: At every floor but no more than 20-foot intervals.
- I. Hangers shall be installed outside of piping insulation with a semi-cylindrical galvanized shield set between the hanger and insulation.
- J. Trapeze hangers may be used instead of separate clevis hangers with suspension rods having double nuts and securely attached to the construction.
- K. All beam attachments shall be installed on clean, smooth, and non-fireproofed sections of the beam.
- L. All hangers, anchors, rods and supports shall be galvanized or painted.

END OF SECTION



SECTION 22 13 16

SANITARY WASTE AND VENT PIPING AND FITTING MATERIALS

PART 1- GENERAL

1.1 RELATED DOCUMENTS

- A The following documents apply to all required work for the Project:
1. The Contract Drawings,
 2. The Specifications,
 3. The General Conditions,
 4. The Addendum, and
 5. The Contract [City of New York Standard Construction Contract].

1.2 DESCRIPTION

- A Provide piping and fitting materials in accordance with the Contract Documents.

1.3 WORK INCLUDED

- A Piping.
- B Fittings.
- C Related Accessories.

1.4 SUBMITTALS

- A Submit a list of all proposed piping materials including system/material (use schedule).
- B Submit complete back-up material where proposed materials differ from those specified.

1.5 QUALITY ASSURANCE

- A Local Plumbing Code.
- B Each pipe length shall have the manufacturer's name cast, stamped or rolled on.
- C Each fitting shall have the manufacturer's name cast, stamped or rolled on.



- D The following are references to the specifications standards of recognized authorities to which pipe and fitting materials must conform to be acceptable. All references shall be the latest edition in force at the time of bidding.

Material	Authority Spec. Numbers
Sleeve Pipe, Black and Galvanized	ANSI B36.20
Steel Pipe, Black and Galvanized	ANSI B36.20
Extra Heavy and Service Weight Cast Iron Soil Pipe and Fittings	CS188-66
Caulking Lead, Type I	FS-QQ-L156(1)
<u>Neoprene or Rubber Gasket, Compression</u>	<u>CISPI HSN-75</u>
Hubless Cast Iron Soil Pipe and Fittings	CISPI 301
Ductile Iron	ANSI A21.51
Ductile Iron Fittings	ANSI A21.10, A21.11
Cast Iron Threaded Drainage Fittings	ANSI B16.12

PART 2 - PRODUCTS

2.1 CAST IRON SOIL PIPE (SV)

- A Pipe: Service weight centrifugally spun cast iron soil pipe hub and spigot type with weight per foot and maker's name clearly stamped or cast on each length.
- B Fittings: Hub and spigot service weight cast iron.
- C Joints: Oakum and lead, Neoprene or rubber gasket, compression.
- D Application:
 - 1. For pipe size greater than 8"

2.2 CAST IRON SOIL PIPE (HUBLESS)

- A Pipe: Hubless cast iron soil pipe coated inside and out.
- B Fittings: Hubless service weight, cast iron.
- C Joints: Neoprene gasket and heavy duty type 304 stainless steel shield and four stainless steel bands for sizes 1½" through 4", six bands minimum for sizes 5" and larger. Clamps as manufactured by Clamp-All Corporation or Husky as manufactured by Anaheim Foundry Co. (ANACO).
- D Application:
 - 1. Above ground branch sanitary and vent piping.



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2. Above ground sanitary stacks except all horizontal sanitary stacks and the 90° stack fittings shall be hub and spigot.

2.3 GALVANIZED STEEL PIPE

- A Pipe: Galvanized steel pipe, Schedule 40 with maker's name rolled into each length.
- B Fittings
 1. Threaded: Galvanized malleable iron with flat band steam pattern. Cast iron drainage pattern for waste piping.
 2. Mechanical Joint: Victaulic couplings Style 07 for grooved piping only, with gasket.
- C Joints: Teflon tape for threaded, Victaulic couplings with gasket for mechanical joint.
- D Application
 1. Schedule 40 steel for Elevator Sump pump discharges.
 2. Schedule 40 steel for indirect waste piping.

2.4 BRASS PIPE

- A Pipe: Seamless red brass, 85% copper, Schedule 40.
- B Fittings: Cast brass, 85% copper, Schedule 40.
- C Joints: Teflon tape.
- D Application:
 1. All exposed fixture pipe, chrome plated.
 2. Indirect waste pipe, chrome plated.

2.5 CHROMIUM PLATING

- A All exposed piping shall be chrome plated in accordance with U.S. Government Standards. Clean and polish materials before plating. Apply plating thoroughly and evenly to prevent stripping and peeling. Copper plate steel and cast iron pipe and nickel plate copper and brass pipe before applying chromium plating. Polished or satin finish as selected.



PART 3 - EXECUTION

3.1 JOINTS

- A Threaded Joints: Do not damage fitting surface, remove burrs and ream smooth. Apply teflon tape to male threads only. Clean joint thoroughly of excess jointing material.
- B Flanged Joints: Use matched flange faces and 1/16" thick compressed gaskets.
- C Compression Joints: Lubricate neoprene gasket and slip into hub end of pipe. Draw spigot end of pipe into the gasketed hub. Provide restrained joints at all changes in pipe sizes, at all changes in direction of run and at all dead ends.
- D Mechanical Joints: Joints shall be made with neoprene or synthetic rubber gaskets.
- E Make joints between different piping materials with adaptor fittings of a type suitable for the purpose intended.
- F Make joints between pipes of dissimilar metals with dielectric union or flanges.
- G Exposed threads on exposed finished piping at plumbing fixtures and equipment will not be accepted.
- H Graphite shall be used on all cleanout plugs or caps.
- I All mechanical joint fittings and couplings shall be made by the same manufacturer.

3.2 BRACING

- A Hubless cast iron pipe shall have bracing installed as required by CISPI and the manufacturer.

3.3 INSTALLATION

- A All materials shall be new and installed in a first class manner.
- B All drainage piping, unless otherwise indicated, shall be pitched at a minimum rate of 1/8 inch per foot in direction of flow. Branch connections to stacks or main drains shall not be made in a manner which will permit backflow.
- C All vent piping shall be arranged to drain any condensate back to waste piping.
- D Nipples: Any piece of pipe 8 inch in length and less shall be considered a nipple. All nipples shall be of weight corresponding to fitting connected. Only shoulder nipples shall be used unless otherwise directed.
- E Where indicated on the drawings, plugged outlets shall be left in drainage and vent piping for future fixtures.

END OF SECTION



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SECTION 22 14 29

SUMP PUMPS

PART 1- GENERAL

1.1 RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project:
 - 1. The Contract Drawings,
 - 2. The Specifications,
 - 3. The General Conditions,
 - 4. The Addendum, and
 - 5. The Contract [City of New York Standard Construction Contract].

1.2 DESCRIPTION

- A. Provide Elevator sump pumps in accordance with the Contract Documents.

1.3 WORK INCLUDED

- A. Elevator Sump Pumps.

1.4 SUBMITTALS

- A. Catalog Data: Manufacturer's literature and illustrations.
- B. Shop Drawings
 - 1. Dimensions.
 - 2. Detail of valving and piping arrangements.
 - 3. Wiring diagram of prewired controllers required control wiring and power wiring diagrams.
 - 4. Written description of sequence of operation.
 - 5. Pump curves indicating service conditions.
- C. Installation: Manufacturer's installation instructions.
- D. Operating Instructions: Written operating instructions including start-up and shutdown.



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- E. Maintenance Data
 - 1. Written instructions on items requiring periodic maintenance.
 - 2. Parts List.
- F. Factory Tests and Certificates
 - 1. Pumps hydraulically tested for pressure/flow performances.
 - 2. Provide certified test data.
- G. Responsibility of Manufacturer
 - 1. The manufacturer shall be responsible for the complete pumping system and shall warranty pumps, motors, controls and all components of the pumping system.

1.5 QUALITY ASSURANCE

- A. U.L.
- B. NEMA

PART 2 – PRODUCTS

2.1 GENERAL

- A. Pumping systems shall be complete with all necessary controls, starters, alarms, timers, wiring of factory-assembled components, etc.
- B. Construct all apparatus of materials and pressure ratings suitable for the conditions encountered during continuous operation.
- C. Select pumps so that when operating at rated RPM, the pump motor cannot be overloaded despite variations in pumping head.

2.2 ELEVATOR SUMP PUMP

- A. Provide Elevator sump pump units of size and capacity indicated on the drawings. Oil-Minder control system shall be provided with pump. Pump shall be STANCO SE-50-ELV or as similar.
- B. Warranty
 - 1. One year warranty for entire duplex system, commencing from start-up of system.



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C. General

1. All wiring will be done provided by the Contractor who shall be responsible for the complete installation.
2. Alarms, alarm wiring and control wiring shall be provided by this trade.
3. The installation shall be complete with all accessories required.
4. Provide a horizontal swing check valve in the discharge from each pump. The valve shall be equipped with a lever weight for quick closure.
5. Sump pumps shall not be used during construction without written approval from the Engineer.

D. Concrete Pit

1. Concrete pit, specified in a separate section of the specification, shall be of size and capacity as shown on the drawings.

E. Cover

1. Provide a cast iron frame and grate with opening for pump discharge piping and control wiring.

2.3 ACCEPTABLE MANUFACTURERS

A. Sump Pumps

1. Stanco
2. Flygt Corporation
3. Weil Pumps

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Completely align and level pumps, motors and bases. Where pumps and motor are shipped as a unit, realign them in the field.
- B. Grout base plates completely to provide a non-deflecting support.
- C. Secure pumps to bases with proper size anchor bolts.
- D. Install and align mechanical seals in accordance with the manufacturer's recommendation.



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- E. Pump manufacturer to set packing, adjust impellers and check alignment prior to start-up.
- F. Domestic water booster pumps to be installed with concrete inertia base.

END OF SECTION



SECTION 23 00 02

HEATING, VENTILATION & AIR CONDITIONING SPECIAL CONDITIONS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. The following documents apply to all required work for the Project:

1. The Contract Drawings,
2. The Specifications,
3. The General Conditions,
4. The Addendum, and
5. The Contract [City of New York Standard Construction Contract].

1.2 DESCRIPTION The General and Supplementary Conditions accompanying these Specifications are hereby made a part of the requirements for the work under this Division of the Specification.

1.3 WORK INCLUDED Provide labor and materials required to install, test and place into operation the heating, ventilating and air conditioning systems as called for in the contract documents, and according to applicable codes and regulations.

B. Furnish and install all labor, materials, apparatus, and appliances essential to the complete functioning of the systems described and/or indicated herein, or which may be reasonably implied as essential whether mentioned in the Contract Drawings and Specifications or not.

C. The Contractor shall accept delivery of the pre-purchased equipment at the site, inspect the equipment on delivery for damage, and install the equipment. The Contractor shall be responsible for the equipment, provide all labor, material, and accessories as required for a complete functioning system. The Contractor shall have complete responsibility as if he provided the equipment including warranties.

1.4 SUBMITTALS Submit all shop drawings, manufacturer's data, samples and test reports as called for hereinafter.

B. Submit a single guarantee stating that all parts of the work are in accordance with Contract requirements. Guarantee work against faulty and improper material and workmanship for a period of one (1) year from date of final acceptance by the City of New York, except that where guarantees or warranties for longer terms are specified herein, such longer term to apply. Within 24 hours after notification, correct any deficiencies which occur during the guarantee period at no additional cost to the City of New York, to the satisfaction of the Commissioner. Obtain similar guarantees from subcontractors, manufacturers, suppliers and subtrade specialists.



- C. List of submittals.
- D. Life of materials and equipment manufacturers.
- E. Alternate equipment and material proposal.
- F. Detailed project schedule.
- G. Operating and maintenance manuals.
- H. Record "As-Built" drawings.

1.5 QUALITY ASSURANCE Comply with current governing codes, ordinances and regulations, as well as with requirements of EPA, U.L. and all other applicable codes.

- B. Comply with the requirements of agencies or authorities having jurisdiction over any part of the work and secure all necessary permits.
- C. Where codes or standards are listed herein, the applicable portions apply.
- D. Plans, specifications, codes and standards are minimum requirements. Where requirements differ, apply the more stringent.
- E. Execute work in strict accordance with the best practices of the trades in a thorough, substantial, workmanlike manner by competent workmen. Provide a competent, experienced full-time Superintendent who is authorized to make decisions on behalf of the Contractor.

1.6 ABBREVIATIONS AND DEFINITIONS

A. Abbreviations

AABC	American Assoc. of Balancing Contractors
ABMA	American Boiler Manufacturers Association
ADC	Air Diffusion Council
AGA	American Gas Assoc.
AMCA	Air Movement and Control Association
ANSI	American National Standards Institute
ARI	Air Conditioning and Refrigeration Institute
ASA	Acoustical Society of America
ASHRAE	American Society of Heating, Refrigerating, and Air Conditioning Engineers
ASME	American Society of Mechanical Engineers



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ASPE	American Society of Plumbing Engineers
ASTM	American Society For Testing and Materials
ASSE	American Society of Sanitary Engineers
AWWA	American Water Works Association
AWS	American Welding Society
CTI	Cooling Tower Institute
EPA	Environmental Protection Agency
FM (FMS)	Factory Mutual (Factory Mutual System)
FS	Federal Specifications
IEEE	Institute of Electrical and Electronic Engineers
MSS	Manufacturers Standardization Society
NAPHCC	National Association of Plumbing Heating & Cooling Contractors
NEBB	National Environmental Balancing Bureau
NEC	National Electric Code
NEMA	National Electrical Manufacturers Association
NFPA	National Fire Protection Association
OSHA	Occupational Safety and Health Administration
SAE	Society of Automotive Engineers
SMACNA	Sheet Metal and Air Conditioning Contractors National Association
U.L.	Underwriters Laboratories

PART 2 - PRODUCTS

2.1 EQUIPMENT AND MATERIALS

- A. If products and materials are specified or indicated on the Drawings for a specific item or system, use those products or materials. If products and materials are not listed in either of the above, use first class products and materials, subject to approval of the Commissioner.



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- B. Provide products and materials that are new, clean, free of defects and free of damage and corrosion.
- C. All products and materials used in this project shall not contain asbestos, P.C.B.'s or any other material which is considered hazardous by the Department of Environmental Protection or any other agency having jurisdiction.
- D. Replace materials of less than specified quality as designated by the Commissioner and relocate work incorrectly installed as determined by the Commissioner.
- E. Provide name/data plates on all components of equipment with manufacturer's name, model number, serial number, capacity data and electrical characteristics attached in a conspicuous place.
- F. Install materials and equipment with qualified trades people.
- G. Maintain uniformity of manufacture for equipment used in similar applications and sizes.
- H. Applicable equipment and materials shall be listed by Underwriters' Laboratories and manufactured in accordance with ASME, AWWA, or ANSI standards, and as approved by local authorities having jurisdiction.
- I. Fully lubricate equipment when installed.
- J. Do not operate air or vacuum systems until ductwork is complete, temporary filters are in place and construction debris is removed. Provide one-inch thick fiberglass filter media across the face of each intake air opening prior to start of each air system during temporary system operation and system clean-out.
- K. Do not operate gas, water or steam systems until piping has been cleaned, tested and startup strainers are in place.
- L. Secure equipment with bolts, washers and locknuts of ample size to support equipment. Embedded anchor bolts to have bottom plate and pipe sleeves. Grout machinery set in concrete under the entire bearing surface. After grout has set, remove wedges, shims and jack bolts and fill space with grout.
- M. Locate valves, traps, damper operators, access doors, etc. to be easily accessible, either in mechanical spaces or through access panels as specified hereinafter, or as required. Coordinate and obtain Commissioner's approval of access panel locations.
- N. Follow manufacturers' instructions for installing, connecting, and adjusting equipment. Provide one copy of such instructions to the Commissioner before installing any equipment. Provide a copy of such instructions and attach to the equipment during work on the equipment.
- O. Pressure vessels and relief valves shall be selected, built and labeled in accordance with ASME. Obtain a certificate from the City Inspector having jurisdiction showing such acceptance, and mount this certificate in a black frame under glass or laminated plastic adjacent to each pressure vessel and relief valve.



- P. Where a sizing conflict occurs in the documents, such as different pipe or duct sizes shown for the same run, use the larger of the sizes until verification can be determined.

2.2 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

- A. Submit to the Commissioner for review, a complete typed list of all mechanical equipment manufacturers and material suppliers for the equipment intended to be furnished and installed on this project as well as names of all subcontractors.
- B. Prepare an index of all submittals for the project. Include a submittal identification number, a cross-reference to the Specification sections or Drawing number, and an item description. Include the anticipated date of each submission. Prefix the submittal identification number by the Specification sections to which they apply. Indicate on each submittal, the submittal identification number in addition to the other data specified. All subcontractors will utilize the assigned submittal identification number.
- C. After the Contract is awarded, obtain complete shop drawings, product data and samples from the manufacturers, suppliers, vendors, and all subcontractors, for all materials and equipment specified in the various sections of the specification. Submit data and details of such materials and equipment for review by the Commissioner. Prior to submission of the shop drawings, product data and samples to the Commissioner, review and certify that these items are in compliance with the Contract Documents. Check all materials and equipment upon their arrival on the job site and verify their compliance with the Contract Documents. Modify any work which proceeds prior to receiving accepted shop drawings as required to comply with the Contract Documents and the shop drawings, at no cost to the project.
- D. Prior to fabrication or installation of any work, completely coordinate work of all trades and prepare a complete set of Coordination Drawings.
- E. All shop drawings shall be prepared using AutoCAD drawing format.

PART 3 - EXECUTION

3.1 DRAWINGS & PRODUCT DATA

- A. Submit materials and equipment by manufacturer, trade name and model number. Include copies of applicable brochure or catalog material. Do not assume applicable catalogs are available in the Commissioner's office. Maintenance and operating manuals are not suitable substitutes for shop drawings.
- B. Identify each sheet of printed submittal pages (using arrows, underlining or circling) to show applicable sizes, types, model numbers, ratings, capacities and options actually being proposed. Cross out non-applicable information. Note specified features such as special tank linings, pump seals, materials or painting.
- C. Include U.L. numbers on all equipment cuts.



- D. Include dimensional data for roughing in and installation, technical data sufficient to verify that equipment meets requirements of drawings and specifications. Include wiring, piping and service connection data, motor sizes complete with voltage ratings and schedules.
- E. Maintain a complete set of reviewed and stamped shop drawings and product data on site.
- F. Prepare and submit detailed shop drawings for ductwork, piping work and other distribution services in $3/8" = 1'-0"$ scale, including locations and sizes of openings in floor decks, walls and roofs.
- G. All shop drawings shall be prepared using AutoCAD 2000 drawing format.
- H. The Contractor is not relieved of the responsibility for dimensions or errors that may be contained on submissions reviewed by the Commissioner, or for deviations from requirements in the Contract Documents. Understand clearly that the Commissioner's noting some errors but overlooking others does not grant the Contractor permission to proceed in error. Regardless of any information contained in the shop drawings, product data and samples, the Contract Documents govern the work and are neither waived nor superseded in any way by the review of shop drawings, product data and samples.
- I. Inadequate or incomplete shop drawings, product data and/or samples will not be reviewed by the Commissioner and will be returned to the Contractor for resubmittal.
- J. Indicate in the lower right hand corner of each shop drawing, and each product data brochure on the front cover, the following: The submittal identification number; title of the sheet or brochure; name and location of the Project; names of the Commissioner, Contractor, Subcontractor, manufacturer, supplier, and vendor; the date of submittal; and the date of each correction and version and revision. Number all pages and drawings in product data brochures consecutively from beginning to end. Unless the above information is included, the submittal will be returned for resubmission. Include with resubmittals of product data or brochures a cover letter summarizing the corrections made in response to the review comments and the submittal page numbers which were revised.

3.2 CONTRACTOR'S COORDINATION DRAWINGS

- A. Coordinate efforts of all trades and furnish, in writing, any information necessary to permit the work of all trades to be installed satisfactorily and with the least possible interference or delay.
- B. Coordinate all new work with existing structure and with existing work which is to remain. Note all existing conditions which may interfere with new work as shown on the documents of this trade and of all other trades which are part of this project. In form the Commissioner of all such conditions in writing with sufficient time to address the conflicts so as not to affect project schedule.
- C. Prepare a complete set of construction Coordination Drawings indicating the equipment actually purchased and the exact routing for all lines such as piping, busway, conduit, ductwork, etc., including conduit embedded in concrete. Use



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the sheetmetal shop drawings, as the base drawings to which all other contractors will add their work. Complete each Coordination Drawing and have signed-off by the other subcontractors and the General Contractor prior to the installation of the work in the area covered by the specific drawing. Maintain a set of these drawings on site for inspection by the Commissioner. These drawings shall not be required to be reviewed by Commissioner.

- D. Indicate piping loads and support points for all piping 4" and larger, racked piping, racked conduit, and busway, and submit to the Commissioner for review and approval. Indicate the elevation, location, support points, static, dynamic and expansion forces and loads imposed on the structure at support, anchor points, and size of all lines. Indicate all beam penetrations and slab penetrations sized and coordinated. Indicate all work routed underground or embedded in concrete by dimension to column and building lines.
- E. This requirement for Coordination Drawings is not authorization for the Contractor or Subcontractor to make any unauthorized changes to the Contract Drawings. Maintain all Design Drawing space allocations such as ceiling height, eight (8) inch high zone above the ceiling (measured from finished ceiling) for tenant buildout and flexibility, chase walls, equipment room size, etc., unless prior written authorization is received from the Commissioner to change them.
- F. Work installed which interferes with work of any other trade will be corrected at no cost to the project.

3.3 COORDINATION OF WORK

- A. The mechanical drawings show the general arrangement of equipment, ductwork, piping and appurtenances. Follow these drawings as closely as the actual construction and the work of other trades will permit. Provide offsets, fittings, and accessories which may be required but not shown on the drawings. Investigate the site, structural and finish ground conditions affecting the work, and arrange the work accordingly. Provide such work and accessories as may be required to meet such conditions, at no additional cost to the project.
- B. Carefully check space requirements with other trades to insure that material can be installed in the spaces allotted thereto with sufficient access space, including finished suspended ceilings.
- C. Wherever work interconnects with work of other trades, coordinate with other trades. Insure that they have the information necessary so that they may properly install the necessary connections and equipment. Identify items (valves, dampers, coils, cleanouts, etc.) requiring access in order that the Ceiling Trade will know where to install access doors and panels.
- D. Consult with other trades regarding equipment so that, wherever possible, motors, motor controls, pumps and valves are of the same manufacture.
- E. Furnish and set sleeves for passage of pipes, ducts and conduits through structural masonry and concrete walls and floors and elsewhere as will be required for the proper protection of each pipe and duct passing through building surfaces.



- F. Properly provide firestopping around all pipes, conduits, ducts, sleeves, etc. which pass through rated walls, partitions and floors.
- G. Provide detailed information on openings and holes required in precast members for mechanical work. Cast holes 4 inches and larger in diameter. Field-cut holes smaller than 4 inches.
- H. Provide required supports and hangers for ductwork, piping and equipment, designed so as not to exceed allowable loadings of structures.
- I. Wherever the work is of sufficient complexity, prepare additional detail drawings to scale similar to that of the design drawings, prepared on tracing medium of the same size as contract drawings. With these layouts, coordinate the work with the work of other trades. Such detailed work to be clearly identified on the drawings as to the area to which it applies. Submit these drawings to the Commissioner for review. At completion include a set of such drawings with each set of as-built drawings.
- J. Before commencing work, examine adjoining work on which this work is in any way dependent for perfect workmanship and report conditions which prevent performance of first class work. Become thoroughly familiar with actual existing conditions to which connections must be made or which must be changed or altered.
- K. Adjust location of pipes, ducts, panels, equipment, etc., to accommodate the work to prevent interferences, both anticipated and encountered. Determine the exact route and location of each pipe and duct prior to fabrication.
 - 1. Right-of-Way: Lines which pitch have the right-of-way over those which do not pitch. For example: condensate, steam, and plumbing drains normally have right-of-way. Lines whose elevations cannot be changed have right-of-way over lines whose elevations can be changed.
 - 2. Make offsets, transitions and changes in direction in pipes and ducts as required to maintain proper head room and pitch on sloping lines. Furnish and install traps, air vents, drains, etc., as required to effect these offsets, transitions and changes in direction.
- L. Install mechanical work to permit removal (without damage to other parts) of coils, heat exchanger plates and tube bundles, fan shafts and wheels, filters, belt guards, sheaves and drives, and other parts requiring periodic replacement or maintenance. Arrange pipes, ducts and equipment to permit access to valves, cocks, traps, starters, motors, and control components, and to clear the openings of swinging doors and access panels.
- M. Provide access panels in equipment, ducts, etc., as required for inspection and maintenance of internal equipment, dampers, plenums, etc.
- N. Ensure proper access to all damper actuators including but not limited to FSD, SD and ALD.
- O. In cases of doubt as to the work intended, or in the event of need for explanation thereof, request supplementary instructions from the Commissioner.



- P. Immediately upon the award of the Contract, but prior to commencing any work, confer together with designated major subcontractors, with the Commissioner concerning the work under the Contract.
- Q. Where a sizing conflict occurs in the documents, such as different pipe or duct sizes shown for the same run, use the larger of the sizes until verification can be determined.

3.4 CUTTING AND PATCHING

- A. Lay out the work in advance, fully coordinated with other trades. Where cutting, channeling, chasing or drilling of floors, walls, partitions, ceilings or other surfaces is necessary for the proper installation, support or anchorage of ductwork, piping or other equipment, do the work carefully so as not to damage adjacent work. Repair any damage to the building, piping, equipment or defaced finish plaster, woodwork, metalwork, etc. using skilled mechanics of the trades involved at no additional cost to the Commissioner.
- B. Do no cutting, channeling, chasing or drilling of unfinished masonry, tile, etc., unless permission from the Commissioner is first obtained. If permission is granted, perform this work in a manner approved by the Commissioner.
- C. Where ductwork, piping or equipment are mounted on a painted finished surface, or a surface to be painted, paint to match the surface. Cold galvanize bare metal whenever support channels are cut.
- D. Provide slots, chases, openings and recesses through floors, walls, ceilings, and roofs as required to properly install work. Be responsible to properly locate such openings and provide for any cutting and patching caused by the neglect to do so.

3.5 RESPONSIBILITY FOR EVALUATION

- A. The Commissioner makes no representations, regarding the character or extent of the subsoils, water levels, existing structural, mechanical and electrical installations, above or below ground, or other subsurface conditions which may be encountered during the work. The Contractor must make his own evaluation of existing conditions which may affect methods or cost of performing the work, based on his own examination of the facility or other information. Failure to examine the drawings or other information does not relieve the Contractor of his responsibility for satisfactory accomplishment of the work.

3.6 FIRE ACCESS TO FIRE APPARATUS

- A. Do not interfere with access to hydrants and fire alarm boxes. In no case allow material or equipment to be within twenty (20) feet of a hydrant or fire alarm box.

3.7 EQUIPMENT PAD AND ANCHOR BOLTS

- A. Concrete pads for various pieces of equipment will be furnished by the General Contractor under another Division. Pads will be provided in all mechanical equipment rooms. This shall include floor mounted equipment, equipment mounted on legs and pipe support stands. Generally conform equipment pads to the shape of the piece of equipment it serves with a minimum 3" margin



around the equipment and supports. Pads will be a minimum of 4" high and made of a minimum 28 day, 2500 psi concrete reinforced with 6" x 6" 6/6 gauge welded wire mesh. Trowel tops and sides of pad to smooth finishes, equal to those of the floors, with all external corners bullnosed to a 3/4" radius. Use shop drawings stamped "NO EXCEPTIONS" for dimensional guidance in sizing pads.

- B. Furnish and install galvanized anchor bolts for all equipment placed on concrete equipment pads, inertia blocks, or on concrete slabs. Provide bolts of the size and number recommended by the manufacturer of the equipment and locate by means of suitable templates. When equipment is placed on vibration isolators, secure the equipment to the isolator and secure the isolator to the floor, pad, or support as recommended by the vibration isolation manufacturer.
- C. Where control panels, motor controllers, etc., are mounted on gypsum board partitions, the mounting screws will pass through the gypsum board and be securely attached to the partition studs. At the Contractor's option, the mounting screws may pass through the gypsum board and be securely attached to 6" square, 18 gauge galvanized metal backplates which are attached to the gypsum board with an approved non-flammable adhesive. Toggle bolts installed in gypsum board partitions will not be acceptable.

3.8 DELIVERY AND HAULING

- A. Include all costs for hauling, hoisting, shoring and placement in the building of equipment specified herein. Be responsible for the timely delivery and introduction of equipment to the project as required by the construction schedule for this project. If any item of equipment is received prior to the time it is required, be responsible for its proper storage and protection until such time as it may be required. Pay for all costs of demurrage or storage.
- B. If any item of equipment is not delivered to or installed at the project site in a timely manner as required by the project construction schedule, be solely responsible for disassembly, re-assembly, manufacturer's supervision, shoring, general construction modification, delays, overtime costs, etc. No additional cost or delays to be incurred by the Commissioner.

3.9 EQUIPMENT AND MATERIAL PROTECTION

- A. Protect the work, equipment and materials of all other trades from damage by work or workmen of this trade, and correct all damage thus caused without additional cost to the City of New York.
- B. Be responsible for all work, materials and equipment until finally inspected, tested and accepted; protect work against theft, injury or damage; and carefully store material and equipment received on site which are not immediately installed. Close open ends of work with temporary covers or plugs during construction to prevent entry of obstructing material. Cover and protect in an acceptable manner to the Commissioner, all equipment and materials from damage due to water, spray-on fireproofing, construction debris, etc.
- C. Provide adequate means for fully protecting finished parts of the materials and equipment against damage from whatever cause during the progress of the work until final acceptance. Protect materials and equipment in storage and during construction in such a manner that no finished surfaces will be damaged or



marred, and moving parts kept clean and dry. If items are damaged, do not install, but take immediate steps to obtain replacement or repair.

3.10 ELECTRICAL EQUIPMENT AND ELECTRICAL ROOM PRECAUTIONS

- A. In general, do not install any piping systems not included as part of the electrical work, in any switchgear, transformer, elevator equipment, telephone, or electrical equipment room.
- B. Do not install piping above switchboards, panelboards, control panels, motor control centers, individual motor controllers, etc.
- C. Provide drip pans under all piping installed in any electrical equipment room. Pan shall be water tight, extending 4" in each direction from the pipe wall and turned up at least one-half the diameter of the pipe, but not less than 2". The pan shall extend at least 1 foot beyond the electrical equipment. Provide a drain pipe to spill into floor drain or service sink.

3.11 EQUIPMENT GUARDS

- A. Provide easily removable expanded metal guards for all belts, couplings, exposed fan inlets and outlets, and other moving parts of machinery. Provide tachometer openings in the guards at least 2" in diameter, for all belt-driven or variable speed machinery. Comply with OSHA requirements for all equipment guards.

3.12 LUBRICATION

- A. Provide means for lubricating all bearings and other machine parts. If a part requiring lubrication is concealed or inaccessible, extend a metallic lubrication tube with suitable fitting to an accessible location and suitably identify it.
- B. After installation, properly lubricate all parts requiring lubrication and keep them adequately lubricated with a lubricant recommended by the equipment manufacturer until the Commissioner issues a Certificate of Substantial Completion for the specific equipment item or system.

3.13 DATE OF COMPLETION AND TESTING OF MECHANICAL SYSTEMS

- A. Comply with the project construction schedule for the date of final performance and acceptance testing, and be sufficiently in advance of the Contract completion date to permit the execution of the testing prior to occupancy and the closeout of the Contract. Complete any adjustments and/or alterations which the final acceptance tests indicate as necessary for the proper functioning of all equipment prior to the completion date. See individual sections for extent of testing required.

3.14 OPERATING INSTRUCTIONS

- A. Provide the services of a factory trained specialist to supervise the operation of all equipment specified herein and to instruct the Commissioner's operators for a five (5) day operating instruction period. See individual sections for additional instructions by manufacturer's trained specialists.



- B. In addition, the manufacturer of the water chilling units will furnish the services of factory trained specialists to instruct the Commissioner's operators as set forth in various sections. The operating instruction periods are as defined in the immediately preceding paragraph.
- C. Notify the Commissioner in writing at least two (2) weeks before each operating instruction period begins. Commence no instruction period until the Commissioner has issued his written acceptance of the starting time.

3.15 OPERATING AND MAINTENANCE BOOKS

- A. Provide operating instructions and maintenance data books for all equipment and materials furnished under this Division.
- B. Submit three (3) final copies of operating and maintenance data books for review at least ten (10) weeks before final review of the project. Assemble all data in a completely indexed volume or volumes in three-ring binders and identify the size, model, and features indicated for each item. Print the project name and logo on the outside of the binders.
- C. Deliver two (2) initial copies of the operation and maintenance data books to the Commissioner six (6) months after notice to proceed has been given by the Commissioner. Include in the initial copies all the information in Paragraph E. below, except Item E.4).
- D. Include the following information where applicable:
 - 1. Identifying name and mark number.
 - 2. Locations (where several similar items are used, provide a list).
 - 3. Complete nameplate data.
 - 4. Certified Record Drawings and "Final Reviewed" Shop Drawings.
 - 5. Parts list.
 - 6. Performance curves and data.
 - 7. Wiring diagrams.
 - 8. Lubrication charts.
 - 9. Manufacturers' recommended operating and maintenance instructions with all non-applicable information deleted.
 - 10. List of spare parts recommended for normal service requirements.
 - 11. Assembly and disassembly instructions with exploded view drawings where available.
 - 12. Trouble shooting diagnostic instructions where applicable.
 - 13. Copies of all factory test reports.



3.16 CERTIFICATES OF APPROVAL

- A. Upon completion of all work, furnish, in duplicate, certificates of inspections from the manufacturers stating that authorized factory engineers have inspected and tested the operation of their respective equipment and found same to be in satisfactory operating condition.

3.17 OPENINGS IN EXTERIOR WALLS

- A. Openings in exterior walls and roofs shall be kept properly plugged and caulked at all times, except when being worked on, to preclude the possibility of flooding due to storms or other causes. After completion of the work, openings for which the Contractor is responsible shall be permanently sealed and caulked in a manner approved by the Commissioner.

3.18 CONTINUITY OF SERVICE AND SCHEDULING OF WORK

- A. Continuity of all services shall be maintained in all areas which will be occupied during the construction period. If and interruption of service becomes necessary, such shall be made only upon consent of the Commissioner and at a time outside normal working hours (off hours) as he/she shall designate.
- B. Refer to the overall scheduling of the work of the project. Schedule work to conform to this schedule and install work to not delay nor interfere with the progress of the project.

3.19 REMOVAL WORK

- A. Particular care shall be taken to avoid creating hazards on the site or causing disruption of service in the adjoining buildings.
- B. All existing equipment indicated to be removed shall be done in a neat and workmanlike manner. All existing equipment indicated to be turned over the Commissioner shall be presented to the Commissioner in good condition to a location designated by Commissioner. All other equipment shall be removed from the premises.
- C. Follow state and federal regulations for disposal of any hazardous materials (such as CFC Refrigerant and Glycol).
- D. Provide written documentation to the Commissioner that all hazardous materials have been disposed of properly.

END OF SECTION



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SECTION 23 00 03

HVAC SCOPE OF WORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project:
 - 1. The Contract Drawings,
 - 2. The Specifications,
 - 3. The General Conditions,
 - 4. The Addendum, and
 - 5. The Contract [City of New York Standard Construction Contract].

1.2 WORK INCLUDED

- A. The work includes the construction described in the Contract Documents, including all labor necessary to perform and complete such construction, all materials and equipment incorporated or to be incorporated in such construction, and all services, facilities, tools and equipment necessary or used to perform and complete such construction. The work includes, but is not limited to the following:
- B. Demolition Work
 - 1. In the Elevator Machine Room Level, remove the existing window type AC unit and patch penetration to match existing, remove the existing vent hole, remove the existing motorized damper, and the existing propeller fan.
- C. New Work
 - 1. Provide and install new indoor unit split air conditioning system (AC-1-EMR), refrigerant piping, 3/4" condensate drain piping, insulation, electrical and controls. Route and pitch drain piping from AC-1-EMR to nearest floor drain or janitor sink. See schedules.
 - 2. Provide and install new air cooled condensing unit (ACCU-1-EMR), refrigerant piping and insulation, electrical and controls. See schedule.
 - 3. Provide and install new electric unit heater, hanger support, electrical and controls. See schedule.
 - 4. Provide and install new motorized damper.
 - 5. Provide and install new propeller fan. Connect to new louver to replace existing.



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6. Provide and install two (2) new 24x18 hoistway vent ducts with 2HR rated fire wrap, automatic louver dampers, electrical and controls. Vent through new louvers. 24x36 gross area.

D. General Work

1. Install duct sensors required for the operation of the automated Building Management System and the operation of the control system. Install automatic temperature dampers and thermostats.
2. Operating and maintenance manuals and instructions.
3. Identification of systems.
4. System cleaning, balancing, testing, adjusting and inspections.
5. Sound and vibration isolation.
6. Prime painting.
7. Supports, anchors, hangers and auxiliary structural members required for support of mechanical work. Drawings, templates, structural steel, anchor bolts, isolation materials, formwork for concrete and other equipment supports.
8. Electric motors.
9. Internal wiring of factory-assembled prewired equipment.
10. Automatic temperature controls.
11. Systems activation and start-up.
12. Furnishing individual electric motor starters not included in motor control centers for installation by the Contractor.
13. Firestopping of wall and floor duct and pipe penetrations.
14. Rigging, hoisting and scaffolding.

1.3 WORK NOT INCLUDED

- A. The items listed below are related to this work but specified under other sections of the contract:

1. Motor control centers.
2. Finish painting.
3. Base flashing for materials penetrating walls or roof.
4. Masonry pits, frames and covers.



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5. Power wiring for motors and motor controllers.
6. Outdoor intake and discharge louvers with screens.
7. Installation of access doors in general construction.
8. Concrete for mechanical work.
9. Installation of individual electric motor starters not included in the motor control centers.

END OF SECTION



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SECTION 23 00 05

ACCESS DOORS IN HVAC WORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project:
 - 1. The Contract Drawings,
 - 2. The Specifications,
 - 3. The General Conditions,
 - 4. The Addendum, and
 - 5. The Contract [City of New York Standard Construction Contract].

1.2 DESCRIPTION

- A. Furnish access doors located in general construction in accordance with the Contract Documents for setting under general construction work.

1.3 WORK INCLUDED

- A. Access Doors in Drywall.
- B. Access Doors in Ceilings.
- C. Fire Rated Access Doors.
- D. Color Coded Buttons.

1.4 SUBMITTALS

- A. Provide manufacturer's data on access doors to be furnished in each type of general construction by location within the project.

PART 2 - PRODUCTS

2.1 GENERAL

- A. Wherever access is required through walls or ceilings to valves, fire dampers, fire and smoke dampers, automatic and balancing dampers, or other concealed equipment installed under this Division, furnish access doors as follows:
- B. Flush door in drywall:
 - 1. Milcor – Type DW



2. KARP – Type KDW
 3. Williams Brothers – Type WB
 4. Elmdor – Type AP
- C. Recessed door in walls and ceilings:
1. Milcor – Type AP
 2. Karp – Type RDW
 3. Williams Brothers – Type WB-RDW
 4. Elmor – Type AT
- D. Recessed door in finished plaster or ceramic tile:
1. Milcor – Type AP
 2. Karp – Type KATR
 3. Williams Brothers – Type WB-AP
 4. Elmdor – Type AP
- E. In fire rated construction:
1. Milcor – Type UFR
 2. Karp – Type 350 FR
 3. Williams Brothers – Type WB-ATR
 4. Elmdor – Type FR
- F. Provide access doors in rated construction with "B" label fire construction. Furnish a U.L. label on each access door.
- G. Access doors will be installed under another Division. Coordinate all sizes and locations with General Contractor.
- H. No access door shall be installed until location and type have been approved by the Commissioner.
- I. Furnish color coded buttons or tabs to indicate location of valves, dampers or other equipment located above removable type ceilings where access doors are not required.
- J. Make access door size a minimum of 18" x 18".

2.2 ACCEPTABLE MANUFACTURERS:

- A. Miller



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- B. Karp
- C. Williams Brothers
- D. Elmdor
- E. Approved Equal.

PART 3 - EXECUTION

3.1 GENERAL

- A. Direct location and setting of access doors in hung ceilings, furred spaces, walls, etc., to provide access to all concealed work items requiring maintenance and/or adjustment and as directed by the Commissioner. Obtain acceptance of the Commissioner for the locations and sizes of such access doors.
- B. Locate and group equipment requiring access doors so that access door locations are aesthetically acceptable. Coordinate location of equipment requiring access with other trades to minimize number of access doors in one area. Prepare drawings of valve and damper locations indicating proposed access door locations for review by the Commissioner prior to installation of valves, dampers, etc. Include equipment of other trades on the Drawing.

END OF SECTION



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SECTION 23 02 00

FIRESTOPPING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project:
 - 1. The Contract Drawings,
 - 2. The Specifications,
 - 3. The General Conditions,
 - 4. The Addendum, and
 - 5. The Contract [City of New York Standard Construction Contract].

1.2 DESCRIPTION

- A. Provide a U.L. approved firestopping system in accordance with the Contract Documents.

1.3 WORK INCLUDED

- A. Firestop Compounds.
- B. Damming Material.

1.4 SUBMITTALS

- A. Submit shop drawings, product data, and manufacturer's installation instructions for all materials and prefabricated devices, providing descriptions sufficient for identification at the job site.
- B. Submit shop drawings showing proposed material, reinforcement, anchorage, fastenings, and method of installation. Construction details shall accurately reflect actual job conditions.
- C. Submit Material Safety Data Sheets with product delivered to job site.
- D. Submit certification by local authorities and U.L. for the complete system of firestopping for each type penetration.
- E. Submit complete details of each type of penetration to be used indicating the proper U.L. approved firestop system and U.L. system number.

1.5 QUALITY ASSURANCE

- A. Firestop system installation shall conform to requirements of qualified designs or manufacturer approved modifications, as supported by engineering reports.



- B. Install firestop materials and systems as required by these Contract Documents and meet and be accepted for use by applicable design building and construction codes.
- C. Submit manufacturer's product data, letter of certification, or certified laboratory test report that the material or combination of materials (firestop system) meets the requirements specified in accordance with the applicable referenced standards.
- D. The firestop compound shall not contain any solvents or inorganic fibers. The penetration seal material must be unaffected by moisture and must maintain the integrity of the floor or wall assembly for its rated time period when tested in accordance with ASTM E814 (UL1479). The system shall be U.L. Classified for up to and including 3 hours.

Line #	Penetrating Item	Type of Rated Wall/Floor	Rating (Hrs.)	U.L. System #
1	Steel Pipe (12" or smaller)	Concrete or Concrete Block	3	399
2	Steel Pipe or EMT Conduit	Concrete or Concrete Block	2	215, 216, 223
3	Steel Pipe or EMT Conduit	Concrete or Concrete Block	1	221
4	Steel Pipe or EMT Conduit	Gypsum Wall	2	425
5	Steel Pipe or EMT Conduit	Wood Floor Assembly	2	306
6	Copper Pipe (not insulated)	Concrete or Concrete Block	2	400
7	Insulated Steel Pipe/Conduit	Concrete or Concrete Block	2	301
8	Insulated Copper Pipes(s)	Concrete or Concrete Block	2	310, 402, 403
9	Joints (up to 3" wide)	Concrete or Concrete Block	2	214
10	Blank Opening	Concrete or Concrete Block	2	311

PART 2 - PRODUCTS

2.1 FIRESTOPPING

- A. Provide firestop compounds for caulk, pour, trowel or pump application. Material must be capable of sealing openings around single or multiple against fire, smoke and toxic gases, and maintaining rating with a thickness no greater than the structure.
- B. Provide a damming material, where required, per manufacturer's recommendations and as shown on the Drawings.



- C. Provide a firestop system consisting of a material, or combination of materials, to retain the integrity of fire-rated construction by maintaining an effective barrier against the spread of flame, smoke or gases through penetrations in fire-rated barriers. It shall be used in specific locations as follows:
 - 1. Penetrations for the passage of through fire-rated vertical barriers (walls and partitions), horizontal barriers (floor slabs and floor/ceiling assemblies), and vertical service shafts.
 - 2. Locations shown specifically on the drawings or where specified in other sections of these specifications.

2.2 MATERIALS

- A. Firestopping materials/systems shall be flexible to allow for normal movement of building structure and penetrating item(s) without affecting the adhesion or integrity of the system.
- B. Firestopping materials shall not require hazardous waste disposal of used containers/packages.
- C. Provide firestopping materials free of solvents which will not experience shrinkage while curing.

2.3 ACCEPTABLE MANUFACTURERS

- A. Hilti
- B. Dow Corning
- C. Flamesafe
- D. International Protective Coatings

PART 3 - EXECUTION

3.1 GENERAL

- A. Deliver materials to site in original unopened containers or packages bearing the manufacturer's name, brand designation, product description and U.L. Classification Mark.
- B. Coordinate delivery of materials with scheduled installation date to allow minimum storage time at job site.
- C. Store materials under cover and protect from weather and damage in compliance with manufacturer's requirements.
- D. Comply with recommended procedures, precautions or remedies described in Material Safety Data Sheets as applicable.



3.2 EXAMINATION

- A. Examine areas and conditions under which work is to be performed and notify the Contractor in writing of conditions detrimental to proper and timely completion of the work.
- B. Verify that openings are properly sized and in suitable condition to receive the work of this section.

3.3 PREPARATION

- A. Clean substrate of dirt, dust, grease, oil, loose materials, rust or other matter that may affect the proper fitting or adhesion of the firestopping materials.
- B. Clean metal and glass surfaces with a non-alcohol solvent.

3.4 INSTALLATION

- A. Install firestop materials as indicated in accordance with design requirements and manufacturer's instructions.
- B. Seal all holes or voids made by penetrations to ensure an air, smoke and water-tight seal.
- C. Firestopping may be required under related sections of the project specifications. Identify all locations requiring firestopping and coordinate the work of this section with work performed under other sections of the project to provide a uniform system of firestopping.
- D. Schedule installation of firestopping after completion of penetrating item installation but prior to covering or concealing of openings.
- E. Do not proceed with installation of firestop materials when temperatures exceed the manufacturer's recommended limitations for installation.
- F. Firestop systems do not re-establish the structural integrity of load bearing partitions. Contractor shall consult the structural engineer prior to penetrating any load bearing assembly.
- G. Firestop systems are not intended to support live loads or traffic. Contractor shall consult the Commissioner if he has reason to believe these limitations may be violated.

3.5 FIRESTOPPING

- A. Insulated Cold Pipes
 - 1. Install a pipe sleeve with an inside diameter large enough to include the specified thickness of insulation.
 - 2. Eliminate insulation for depth of wall and fill space between with firestop expanding foam leaving sufficient space at each end of sleeve for proper depth of firestop.



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3. Install firestop material at each end of sleeve to form a U.L. approved system.
4. Insulate pipe on each side of wall and caulk all around insulation at joint of wall and insulation.

END OF SECTION



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SECTION 23 05 13

ELECTRIC MOTORS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project:
1. The Contract Drawings,
 2. The Specifications,
 3. The General Conditions,
 4. The Addendum, and
 5. The Contract [City of New York Standard Construction Contract].

1.2 DESCRIPTION

- A. Provide electric motors in accordance with the Contract Documents.

1.3 WORK INCLUDED

- A. Electric Motors.

1.4 SUBMITTALS

- A. Shop Drawings: Submit electric motor characteristics with each equipment submission.
- B. Product Data: Manufacturer's latest published data for materials, equipment, accessories and installation.

1.5 QUALITY ASSURANCE

- A. Motor efficiency is Guaranteed Minimal Efficiency according to NEMA Standard MG-1-12.53a when tested in accordance with IEEE Standard 112.

PART 2 - PRODUCTS

2.1 ELECTRIC MOTORS

- A. Provide high efficiency electric motors for driving the mechanical equipment. Motors to be of proper power, construction and speed to suit the specified makes of equipment; if other makes of equipment are accepted, the proper adjustment of motor speed, power, and work of Division 26 must be included without additional cost to the Contract.



- B. 1/2 horsepower and larger motors to be rated at 460 volts for operation on 480 volt, 3 phase, 60 hertz, alternating current systems, except as otherwise noted. 1/3 horsepower and smaller motors to be rated at 115 volts for operation on 120 volt, single phase, 60 hertz, alternating current systems, except as otherwise noted.
- C. Motors to be of constant speed, squirrel-cage type. Single phase motors to be capacitor start, induction run, or split phase type as approved for the service. Motors over 100 horsepower to be suitable for operation with reduced-voltage auto-transformer type starters.
- D. All 1/2 horsepower and larger motors to have Class B insulation suitable for ambient temperature of 40°C. when operated at 115% load.
- E. All motors to be of quiet operation, guaranteed to fulfill the specified requirements without producing any sound audible outside of Machine Rooms. All belt connected motors to have adjustable bases and set screws to maintain proper belt tension; provide proper belt guards.
- F. All motors and accessories to comply in all respects with NEMA standards.
- G. Coordinate the NEMA type of each motor with the torque and inertia load of the equipment served, and the inrush characteristics of the motor with the starter selection, so that all items furnished constitute a properly related package. No motor to operate in the service factor range.
- H. Fan motors to be capable of accelerating their respective fans from 0 revolutions per minute to design or synchronous revolutions per minute within a maximum of 10 seconds. Submit for approval curves which plot time versus revolutions per minute for the particular motor and fan combination.
- I. Motorized equipment rated at more than 1000 watts to have a power factor not less than 95 percent under rated nameplate conditions. Provide corrective devices where required to achieve this.
- J. Provide thermistor protection for windings on all motors 25 horsepower and above. Where motors are controlled by individual motor starters, provide relays for installation under Division 26. Relays in "motor control centers" to be provided by the Contractor furnishing the motor control centers.

2.2 ACCEPTABLE MANUFACTURERS

- A. General Electric
- B. Marathon
- C. Lincoln
- D. Siemens-Allis
- E. Approved Equal.



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PART 3 - EXECUTION

3.1 **WIRING**

- A. Wiring between motor and controllers will be performed under Division 26.

END OF SECTION



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SECTION 23 05 29

HANGERS, ANCHORS AND SUPPORTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project:
1. The Contract Drawings,
 2. The Specifications,
 3. The General Conditions,
 4. The Addendum, and
 5. The Contract [City of New York Standard Construction Contract].

1.2 DESCRIPTION

- A. Provide hangers, anchors and supports in accordance with the Contract Documents.

1.3 WORK INCLUDED

- A. Hangers.
- B. Structure Attachments.

1.4 SUBMITTALS

- A. Shop Drawings: Submit details of pipe hangers, anchors and supports for each pipe size and pipe service. Submit details of support methods and point loadings, and anchor reactions.
- B. Product Data: Manufacturer's latest published data for materials, equipment and installation.

1.5 QUALITY ASSURANCE

- A. Hangers and supports to be constructed and applied according to the following standards:
1. Manufacturer's Standardization Society MSS SP-58, SP-69 and SP-89.
 2. Power Piping Code, ANSI B31-1.



PART 2 - PRODUCTS

2.1 GENERAL

- A. Provide hangers of heavy construction suitable for the size of pipe to be supported. All materials to be of steel, except rollers which are to be of wrought or malleable iron. Hangers for pipes up to and including 5 inches to be adjustable swivel ring, split ring, wrought pipe clamp, or adjustable wrought clevis type. Hangers for pipes 6 inches and above to have 2 rods and cross-rod with cast iron pipe roll complete with adjustable sockets and nuts.
- B. Support vertical piping with double bolt riser clamps attached to the pipe, resting on the floor slab. In general, use one clamp for each two floors and one clamp at each floor for copper tubing. Where pipes are in open shafts, provide forged steel bar brackets fixed to wall.
- C. Support vertical piping risers on base elbow supports. Supports to be no less than one pipe size smaller than riser.
- D. The following tables will establish a minimum level of acceptance for pipe hangers, supports and attachments.

1. Hangers and Supports

Service	Hanger Type	Grinnell Figure No.	Maximum Pipe Size
Uninsulated Steel	Clevis	260	5"
Uninsulated Copper	Clevis	CT-65	4"
All (Steel Pipe)	Riser Clamp	261	20"
(Copper Pipe)	Riser Clamp	CT-121	4"
All Insulated	Roller Hanger	171	24"
Chilled & Condenser Water	Base Plate & Roll	277	24"
Hot Water, Steam and Steam Condensate	Base Plate & Roll	274	24"
All	Trapeze	46	24"
All	Wall Bracket	195	5"
All	Wall Bracket	199	12"



2. Structure Attachments

Type	Grinnell Figure No.	Maximum Rod Size (Inches)	Maximum Pipe Size
Beam Clamp	218	7/8	8"
Beam Clamp	228	1½	24"
Side Mount Clamp	225	7/8	8"
Channel Clamp	226	7/8	8"
Expansion Shield	281	7/8	8"

2.2 ACCEPTABLE MANUFACTURERS

- A. Grinnell
- B. Pipe Shields Inc.
- C. C&S Manufacturing

PART 3 - EXECUTION

3.1 GENERAL

- A. Support horizontal piping in accordance with the following schedule:

Pipe Size	Maximum Hanger Spacing	Rod Size
1" and smaller	6'-0"	3/8"
1¼" to 2"	9'-0"	3/8"
2½" to 3"	10'-0"	1/2"
4" to 5"	12'-0"	5/8"
6"	12'-0"	3/4"
8" to 12"	12'-0"	7/8"
14" to 16"	12'-0"	1"
18"	12'-0"	1-1/8"
20"	12'-0"	1-1/4"
24"	12'-0"	1-1/2"

- B. Provide hangers at each change in direction and both sides of each valve.



- C. Support hangers from concrete inserts or beam clamps. Furnish, locate and set such inserts and make sure that such inserts are in place when the concrete is poured. Construct inserts of malleable iron or pressed steel with space for rods of all sizes. Install all inserts for pipes 3" and larger in size with a reinforcing rod 5/8" in diameter run through a slot in the insert specifically provided for this purpose.
- D. If any pipe is to be hung in a space where no inserts have been provided, drill holes in the slab (subject to the Commissioner's prior approval) and provide rods and hanger attached to an approved fishplate or install double expansion shields connected by a 2" x 2" angle, from which the hanger rod is to be suspended. For pipe size 2" and under, use single shields but the hanger spacing defined hereinbefore to be reduced to 5'-0". The carrying capacity and size of each shield to be calculated on the basis of the spacing indicated above but the minimum size to be 3/8". Install additional shields of the same size so that the number of hangers are of adequate size to support the loads which they carry. Shields may be used in concrete slabs only.
- E. Regardless of the type of construction (i.e., concrete, concrete-deck-steel or other variations) take particular care to support all main lines and all large and heavy pipes in an approved manner, including the furnishing and installation of supplementary steel, if required. Supplementary steel sections are to be mill-rolled. Submit shop drawings, indicating support methods, point loadings to the building structure and hanger locations for review sufficiently in advance of concrete pouring schedules to permit evaluation, critique and any necessary changes to handling and support methods.
- F. Set all inserts for all pipes in ample time to allow concrete work to be performed on scheduled time.
- G. Hangers may be directly attached to steel beams of building construction, where they occur, if approved by Commissioner. Smaller pipes may be suspended from crosspieces of pipe or steel angles, which in turn, are to be securely fastened to building beams or hung from building concrete construction by means of rods and inserts. The intention is to provide supports which, in each case, will be amply strong and rigid for the load, but which will not weaken or unduly stress the building construction.
- H. Provide approved roller support, floor stands, wall brackets, etc., for all lines running near the floor or near walls, which can be properly supported or suspended by the floors or walls. Pipelines near walls may also be hung by hangers carried from approved wall brackets at a level higher than the pipe.
- I. Do not hang piping from other piping. Support of hangers by means of vertical expansion bolts is not permitted.
- J. Wherever hangers using pipe rolls are used provide approved steel pipe covering protection saddles, spot welded to the piping at each hanger location. Vapor barrier jackets to cover shield.
- K. Anchor piping where shown on Drawings and as required to localize expansion or to prevent undue strain on piping and branches. Anchors to be entirely separate from hangers. All anchor designs to be submitted for approval and to include piping



reactions which respective anchors are capable of supporting. Provide all indicated or required expansion loops.

- L. Support all lines of copper tubing individually by approved type hangers not more than 6' apart, or as shown on the drawings. Use hangers especially designed for copper tubing and of exact outside diameter of tubing. On hangers for covered tubing, use broad straps fitting outside of covering.
- M. Hangers used for cold piping will support the pipe without piercing the insulation. Use insulation shields to protect the insulation on cold pipes. Weld insulation protection saddles to insulated hot pipes, or any piping subject to axial movement, at roller supports. Space between pipe and saddle to be filled with insulation. Wherever fibrous glass pipe insulation is installed, install calcium silicate of equal thickness in lieu thereof, wherever hangers and insulation shields bear on insulation. Vapor barrier jackets to cover shields.
- N. For piping 4" and larger, support the elbows of the piping adjacent to the pumps with steel base elbow supports from the inertia base which pump is on to prevent loading heavy weights of piping on pump casing. Where inertia base is not provided, base elbows to be supported on floor with 1" neoprene pad.
- O. Support risers using base elbow supports, no smaller than one pipe size, mounted on 1" neoprene pad and concrete housekeeping pad. Submit pipe loads to Commissioner for review.

3.2 ATTACHMENTS TO EXISTING STEEL DECK SLAB

- A. Attachments to existing steel deck to be limited to loads of 500 lbs. Heavier loads to be supported by supplementary structural steel connected to structural beams. Provide all required supplementary steel.
- B. Attachments with loads only up to 500 lbs. is to be accomplished by drilled-in expansion shield type anchors located on the center line of the concrete filled ribs.
- C. No attachments will be permitted to existing electrified decks. If hanger attachments are not existing, all new attachments to be supported from supplementary steel provided by Contractor.
- D. 500 lb. load attachments must not be spaced less than 5'-0" apart, and are to be located as close to steel beams as possible.
- E. Furnish and locate sleeves, cut holes through deck, reinforce deck, and set sleeves. Coordinate sleeve locations and electrical distribution. Submit drawings showing location of holes and proposed reinforcing for approval before proceeding with installation.

END OF SECTION



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SECTION 23 05 48

VIBRATION ISOLATION FOR HVAC WORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project:
1. The Contract Drawings,
 2. The Specifications,
 3. The General Conditions,
 4. The Addendum, and
 5. The Contract [City of New York Standard Construction Contract].

1.2 DESCRIPTION

- A. Provide vibration isolation in accordance with the Contract Documents.

1.3 WORK INCLUDED

- A. Vibration isolation elements for piping and equipment.
- B. Equipment isolation bases.
- C. Seismic restraints.

1.4 SUBMITTALS

- A. Manufacturer's Data
1. Catalog cuts and data sheets on specific vibration isolators to be utilized showing compliance with the specifications.
 2. An itemized list showing the items of equipment or piping to be isolated, the isolator type or model number selected, isolator loading and deflection, and reference to specific drawings.
 3. An itemized list of non-isolated equipment, piping, and ductwork to be seismically restrained.
 4. Seismic restraint calculations.
 5. Written approval of the base design to be obtained from the equipment manufacturer.



B. Shop Drawings

1. Drawings showing equipment base constructions for each machine, including dimensions, structural member sizes and support point locations.
2. Drawings showing methods of suspension, support guides for piping and ductwork.
3. Drawings showing methods for isolation of pipes and ductwork piercing walls and floor slabs.
4. Concrete and steel details for bases including anchor bolt locations.
5. Number and location of seismic restraints and anchors for each piece of equipment and of ductwork and piping.
6. Specific details of restraints, including anchor bolts for mounting and maximum loading at each location for each piece of equipment and lengths of ductwork and piping.
7. Provide installation instructions, drawings and field supervision to assure proper installation and performance.

1.5 QUALITY ASSURANCE

- A. Provide control of excessive noise and vibration in the buildings due to the operation of machinery or equipment, and/or due to interconnected piping, ductwork or conduit. Installation of vibration isolation units, and associated hangers and bases, under the direct supervision of the vibration isolation manufacturer's representative.
1. All vibration isolators shall have either known undeflected heights or calibration markings so that, after adjustment, when carrying their load, the deflection under load can be verified, thus determining that the load is within the proper range of the device and that the correct degree of vibration isolation is being provided according to the design.
 2. All isolators shall operate in the linear portion of their load versus deflection curve. Furnish load versus deflection curves linear over a deflection range of not less than 50% above the design deflection.
 3. The ratio of lateral to vertical stiffness to be not less than 0.9 nor greater than 1.5.
 4. The theoretical vertical natural frequency for each support point, based upon load per isolator and isolator stiffness shall not differ from the design objectives for the equipment as a whole by more than $\pm 10\%$.
 5. All neoprene mountings shall have a Shore hardness of 40 to 65, after minimum aging of 20 days or corresponding oven-aging.
- B. Adhere to SMACNA Guidelines for Seismic Restraints of Mechanical Systems.
- C. Adhere to ASHRAE Guide 1995 Chapter 50.



- D. Design seismic restraints in accordance with Local Code for Seismic Zone that the project is located in.
- E. Manufacturer of vibration isolation equipment has the following responsibilities:
 - 1. Determine vibration isolation and seismic restraint sizes and locations.
 - 2. Guarantee specified isolation system deflection.
 - 3. Provide piping and equipment isolation systems and seismic restraints as scheduled or specified.
 - 4. Guarantee specified isolation system deflection.
 - 5. Provide installation instructions, drawings and field supervision to assure proper installation and performance.
- F. Structural or civil engineer's stamp verifying design and calculations for seismic restraining systems used.
- G. Substitution of internally isolated mechanical equipment in lieu of the specified isolation of this Section must be approved for individual equipment units and is acceptable only if above acceleration loads are certified in writing by the equipment manufacturer and stamped and sealed by a licensed civil or structural engineer.
- H. Purchased and/or fabricated equipment must be designed to safely accept external forces of 1.0g load in any direction for all rigidly and resiliently supported equipment, piping and ductwork without failure and permanent displacement of the equipment. Life safety equipment such as fire pumps, smoke exhaust fans, emergency generators and other life safety designated equipment must be capable of accepting external forces of up to 1.5g in any direction without permanent displacement or failure of the equipment.
- I. Vibration isolation firms having a minimum three years' experience designing and installing vibration isolation and seismic restraint systems shall be qualified to provide the materials and installation required by this section.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. All vibration isolation devices to be the product of a single manufacturer.
- B. Where spring isolation systems are described in the following specifications, the mounting assemblies shall utilize bare springs with the spring diameter not less than 0.8 of the loaded operating height of the spring. Each spring isolator shall be designed and installed so that the ends of the springs remain parallel. The minimum deflection from loaded operating height to spring solid height shall be 50% of the rated static deflection of the spring.



- C. Where neoprene-in-shear isolation systems are described in the following specifications, the mounting assemblies shall utilize bare neoprene elements with unit type design molded in oil resistant neoprene. The neoprene shall be compounded to meet the following:
1. Shore hardness of 35 to 65 ± 5 , after minimum aging of 20 days or corresponding oven-aging.
 2. Minimum tensile strength of 2000 PSI.
 3. Minimum elongation of 300%.
 4. Maximum compression at 25% of original deflection.
- D. All mounting systems, including seismic restraints, exposed to weather and other corrosive environments shall be protected with factory corrosion resistance. All metal parts of mountings (except springs and hardware) to be hot dip galvanized. Springs shall be cadmium plated and neoprene coated. Nuts and bolts shall be cadmium plated.

2.2 VIBRATION ISOLATORS

- A. Refer to schedule sheets for vibration isolator types to be used.
1. Type A: Bare spring isolators to incorporate the following:
 - a. Minimum $\frac{1}{4}$ inch thick neoprene acoustical base pad on underside, unless designated otherwise.
 - b. Designed and installed so that ends of springs remain parallel.
 - c. Non-resonant with equipment forcing frequencies or support structure natural frequencies.
 - d. Type SLF MII
Type OSK VEC
Type AN VMCI
 2. Type B: Spring isolators to be same as Type A, except:
 - a. Provide built-in vertical limit stops with minimum $\frac{1}{4}$ " clearance under normal operation.
 - b. Tapped holes in top plate for bolting to equipment.
 - c. Capable of supporting equipment at a fixed elevation during equipment erection. Installed and operating heights shall be identical.



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- d. Shall incorporate snubbing restraint in all directions. Cast or aluminum housings are unacceptable. System to be field bolted or welded to deck with ability to resist forces of g acceleration.

Type SLR MII
Type KW VEC
Type AWR VMCI

3. Type C: Spring hanger rod isolators to incorporate the following:

- a. Spring element seated on a steel washer within a neoprene cup incorporating a rod isolation bushing.
- b. Steel retainer box encasing the spring and neoprene cup.
- c. Provide sufficient clearance between retainer box and spring hanger rod to permit minimum 15 degree allowable rod misalignment in any direction, total 30 degrees.
- d. Requires seismic restraint type III.

Type 30N MII
Type SNRC VEC
Type RSH-30A VMCI

Where operating weight differs from installed weight provide built-in adjustable limit stops to prevent equipment rising when weight is removed. Stops shall not be in contact during normal operation.

4. Type D: Elastomer isolators to incorporate the following:

- a. Bolt holes for bolting to equipment base.
- b. Bottom steel plates for bolting to sub-base as required.
- c. Unit type design molded in oil-resistant neoprene.
- d. Encased in ductile steel or iron casing and capable of withstanding external forces of up to 1.0 g. System to be field bolted or welded to deck with ability to resist forces of 1.0 g.

Type BR/RBA MII
Type 368 SD/VEC
Type RD VMCI

5. Type E: Elastomer hanger rod isolators to incorporate the following:

- a. Molded unit type neoprene element with projecting bushing lining rod clearance hole.
- b. Neoprene element to be minimum 1¾" thick.
- c. Steel retainer box encasing neoprene mounting.



- d. Clearance between mounting hanger rod and neoprene bushing shall be minimum _".
- e. Requires seismic restraint type III.
 - Type HD MII
 - Type CD VEC
 - Type RHD VMCI
- 6. Type F: Combination spring/elastomer hanger rod isolators to incorporate the following:
 - a. Spring and neoprene isolator elements in a steel box retainer.
 - b. Other characteristics of steel box retainer and hanger rod swing as described for Type C isolators.
 - c. Requires seismic restraint type III.
- 7. Type G: Pad type elastomer mountings to incorporate the following:
 - a. 0.750" minimum thickness.
 - b. 50 psi maximum loading.
 - c. Ribbed or waffled design.
 - d. .10" deflection per pad thickness.
 - e. 1/16" galvanized steel plate between multiple layers of pad thickness.
 - f. Suitable bearing plate to distribute load.
 - g. Requires seismic restraint type II or III as installation requires.
 - Type Super W MII
 - Type 200N VEC
 - Type Shearflex VMCI
- 8. Type H: Pad type elastomer mountings to incorporate the following:
 - a. Laminated canvas duck material and neoprene.
 - b. Maximum loading 1000 psi.
 - c. Suitable bearing plate to distribute load.
 - d. Minimum thickness, ½ inch.
 - e. Requires seismic restraint type II or III as installation requires.
 - Type HL MII



Type Fabriflex

VMCI

2.3 EQUIPMENT BASES

A. Integral Structural Steel Base, Type B-1

1. Reinforced as required to prevent base flexure at start-up and misalignment of drive and driven units. Centrifugal fan bases complete with motor slide rails. Drilled for drive and driven unit mounting template.

Type WF, M MII

B. Concrete Inertia Base, Type B-2

1. Concrete inertia bases to be formed in a structural steel perimeter base, reinforced as required to prevent flexure, misalignment of drive and driven unit or stress transfer into equipment. The base to be complete with motor slide rails, pump base elbow supports and complete with height saving brackets, reinforcing, equipment bolting provisions and isolators.
2. Minimum thickness of the inertia base to be according to the following tabulation:

Motor Size (hp)	Minimum Thickness (in)
5-15	6
20-50	8
60-75	10
100-250	12
300-500	18

Mason Type K, BMK, or as approved.

C. Curb Mounted Base, Type B-3

1. Curb mounted rooftop equipment shall be mounted on spring isolation curbs that directly sit on roof construction and are flashed and incorporated into roof's membrane waterproofing system.
2. All spring locations shall have removable waterproof covers to allow for spring adjustment and/or removal.
3. All spring mounts shall be as Isolator Type B.
4. Curb and spring mounting shall be capable of withstanding 110mph wind and 1.5g seismic loads.



5. Curbs shall be Mason Type CMAB or RSC (depending on deflection required), or approved equal.

D. Isolated Rail Base, type B-4

1. Rails shall be constructed from structural steel angles, as required, to prevent flexure and misalignment under load.
2. Each rail shall be the full length of the supported equipment and be welded to a series of vertically restrained spring isolators as Type B described above.
3. Angles shall have bolt-together ties at the ends and center to form one rigid base platform.

Mason Type TRSLR.

E. Vaneaxial Fan Built-Up Casing Floating Base, Type B-5

1. The vaneaxial fan casing, coils, filter assembly and inlet/discharge silencers shall be erected on tope of a poured-in-place, reinforced concrete floating floor supported on Mason Industries Type EAFM 2" high mounting system, or as approved.
2. The mountings shall be oriented in the floating floor base for the weight and weight distribution of the supported equipment (casing, coils, filter silencers) on the floating floor.
3. The plywood form shall be Type AC exterior grade, 1/2" thick. Isolation mounts shall be 2" thick and shall be selected and oriented to provide deflections not exceeding 0.3" or 10 Hz frequency.
4. The fans shall be resiliently spring supported, and as described elsewhere, from concrete piers erected from the structural slab and isolated from the floating floor.
5. The design and installation of the vaneaxial fan built-up casing floating floor and fan isolation shall be coordinated with the vibration control vendor such that there will be no short circuit of the floating build-up casing base and the building structure.
6. Requires seismic restraint type II.

2.4 FLEXIBLE CONNECTORS

A. Elastomer Type FC-1

1. Manufactured of nylon tire cord and EPDM, both molded and cured with hydraulic presses.
2. Straight connectors to have two spheres reinforced with a molded-in external ductile iron ring between spheres.



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3. Elbow shall be long radius reducing type.
4. Rated 250 psi at 170°F. Dropping in a straight line to 170 psi at 250°F for sizes 1½" to 12" elbows. Elbows shall be rated no less than 90% of straight connections.
5. Sizes 10" and 12" to employ control cables with neoprene end fittings isolated from anchor plates by means of ½" bridge bearing neoprene bushings.
6. Minimum safety factor of 4 to 1 at maximum pressure ratings.
7. Submittals to include test reports.

Mason Types SuperFlex MFNEC, MFLRR, MFTFU, MFTNC, MFTCR.

B. Flexible Stainless Hose, Type FC-2

1. Braided flexible metal hose.
2. 2 inch pipe size and smaller with male nipple fittings.
3. 2½ inch and larger pipe size with fixed steel flanges.
4. Suitable for operating pressure with 4:1 minimum safety factor.
5. Length as shown on Drawings.

Type BSS MII
Type MFPVMCI

C. Unbraided Exhaust Hose, Type FC-3

1. Low pressure stainless steel annularly corrugated.
2. Fitted with flanged ends.
3. Maximum temperature 1500°F.

Mason Type SDL-RF.

2.5 SEISMIC RESTRAINTS

A. General

1. Provide restraints capable of safely accepting 1.0 "G" external forces without failure, or 1.5 "G" for life safety equipment to maintain equipment, piping, duct and fan powered boxes in a captive position. Restraints must not short circuit vibration isolation systems or transmit objectionable vibration or noise.



2. Submit calculations by a licensed Structural or Civil Engineer substantiating that all equipment mountings and foundations and their seismic restraints can safely accept external forces of 1.0g load for all rigidly and resiliently supported equipment, piping, and ductwork (1.5g load for all life safety equipment) without failure and permanent displacement. Restrain all resiliently mounted piping and ductwork with cable sway bracing by Mason Industries, or approved equal.

B. Seismic Restraint, Type I

1. Comply with general characteristics of spring isolators.
2. Provide vertical restraints that are capable of supporting equipment at fixed elevation during equipment erection.
3. Incorporate seismic snubbing restraint in all directions at specified acceleration loadings.
4. System to be field bolted to structure with minimum capability to withstand external forces of 1.5g.

Mason Type SSLF.

C. Seismic Restraint, Type II

1. Each corner or side seismic restraint shall incorporate minimum " thick pad limit stops. Restraints shall be made of plate, structural members or square metal tubing in a welded assembly, incorporating resilient pads. Angle bumpers are not acceptable. System to be field bolted to deck with 1.5g acceleration capacity.
2. Seismic spring mountings as described above are an acceptable alternative providing all seismic loading requirements are met.

Mason Industries Type Z-1011, Type Z-1225.

D. Seismic Restraint, Type III

Metal cable type with approved end fastening devices to equipment and structure. System to be field bolted to deck or overhead structural members or deck with aircraft cable and clamps as per SMACNA guidelines.

2.6 ACCEPTABLE MANUFACTURERS

- A. Mason Industries, Inc. (MII)
- B. Vibration Mountings & Controls, Inc. (VMCI)
- C. Peabody Engineering (PE)
- D. Korfund Dynamics Corp. (KDC)
- E. Amber-Booth (AB)



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F. Vibration Eliminator Co. (VEC)

PART 3 - EXECUTION

3.1 GENERAL

- A. Install in accordance with manufacturer's written instructions. Vibration isolators must not cause any change of position of equipment or piping resulting in piping stresses or misalignment.
- B. Isolate mechanical equipment from the building structure by means of noise and vibration isolators as scheduled on the Drawings and in these specifications.
- C. Piping and ductwork to be isolated must pass freely through walls and floors without rigid connections. Maintain 3/4 inch to 1 1/4 inch clearance around outside surfaces of piping or ductwork at penetration points. Pack this clearance space tightly with fiberglass, and caulk airtight after installation of piping or ductwork.
- D. Make no rigid connections between equipment and building structure that degrades the noise and vibration isolation system specified herein.
- E. Loop electrical circuit connections to isolated equipment to allow free motion.
- F. Bring to the Engineer's attention prior to installation any conflicts with other trades which will result in unavoidable rigid contact with equipment or piping as described herein, due to inadequate space or other unforeseen conditions. Corrective work necessitated by conflicts after installation will be at the responsible contractor's expense.
- G. Support vertical piping loads, including water strainers, and valves between pump base elbow supports and the suction and discharge header piping by means of the pump base spring isolators without stress or strain to the pump housing.
- H. Do not install any equipment, piping or conduit which makes rigid contact with the "building" unless permitted in this Specification. Building includes, but is not limited to, slabs, beams, columns, studs and walls.
- I. Coordinate work with other trades to avoid rigid contact with the building. Inform other trades following work, such as plastering or electrical, to avoid any contact which would reduce the vibration isolation.

3.2 EQUIPMENT ISOLATORS

- A. Mount floor mounted equipment on 4" high concrete housekeeping pads over complete floor area of equipment. Mount vibration isolating devices and related inertia blocks on concrete pad. Key housekeeping pads with hair pins, as required, to be integral with structural slab. Provide approved seismic restraint anchor plates flush with top of housekeeping pad.
- B. Support each fan and motor assembly on a single structural steel frame. Provide flexible duct connections at inlet and discharge of fans.



- C. Provide brackets to accommodate the isolator. Manufacturer to specify the vertical position and size of the bracket.
- D. Maintain a minimum operating clearance between the equipment frame on rigid steel base frame and the housekeeping pad of 1 inch. Maintain a minimum operating clearance between concrete inertia and base and housekeeping pad or floor of 2 inches.
- E. Temporarily support the structural steel or concrete inertia base with blocks or shims, as appropriate, prior to the installation of the machine or isolators.
- F. Install the isolators without raising the machine and frame assembly.
- G. Adjust the isolator after the entire installation is complete and under full operational load so that the load is transferred from the blocks to the isolator. When all isolators are properly adjusted, the blocks or shims will be barely free and shall be removed.
- H. Verify that all insulated isolator and mounting systems permit equipment motion in all directions. Adjust or provide additional resilient restraints to flexibly limit equipment start-up lateral motion to ½ inch.
- I. Prior to start-up, clean out all foreign matter between bases and equipment. Verify that there are no isolation short circuits in the base or isolators.

3.3 ADDITIONAL REQUIREMENTS

- A. Diagonal thrust restraint shall be as described for Type C hanger with the same deflection as specified for the spring mountings. The spring element shall be designed so it can be pre-set for thrust and adjusted to allow for a maximum of ¼" movement at start and stop. Diagonal restraints shall be attached at the centerline of thrust. Restraint shall be Mason Type WB, or as approved.
- B. All piping and ductwork to be isolated shall freely pass through walls and floors without rigid connections. Penetration points shall be sleeved or otherwise formed to allow passage of piping or ductwork, and maintain ¾" to 1¼" clearance around the outside surfaces. This clearance space shall be tightly packed with fiberglass, and caulked airtight after installation of piping or ductwork.
- C. All HVAC piping vertical risers larger than 2" in diameter shall be isolated from the building structure by means of noise and vibration isolation guides and supports.
- D. Isolators shall be installed with the isolator hanger box attached to, or hung as close as possible to, the structure. Hanger rods shall be aligned to clear the hanger box.
- E. Isolators shall be suspended from substantial structural members, not from slab diaphragm unless specifically permitted.
- F. Structural steel for cooling tower or other equipment must support the equipment without excessive deflection. The structural steel support shall not be resonant with the isolation system resonant frequencies or the driving frequencies of the supported equipment.



3.4 GENERAL SEISMIC RESTRAINT REQUIREMENTS

- A. All equipment whether isolated or not shall be bolted to structure to allow for minimum 1.0g of acceleration (1.5g for life safety equipment). Bolt points and diameter of inserts shall be submitted and verified as part of the contractor's submission for each piece of equipment and stamped and sealed by a civil or structural engineer.
- B. All suspended equipment, whether isolated or not, shall be seismically restrained at four points with Type III cable restraints.
- C. Install seismic restraining system Type III taut for overhead suspended unisolated equipment, piping or ductwork, and slack with 1/2" cable deflection for isolated systems.
- D. Seismically restrain all piping and ductwork with center bracing or Type III restraining system in accordance with SMACNA guidelines to comply with UBC 1988 State of California with 1989 amendments as outlined below:
 - 1. All schedule 10, 20, or 40 piping shall be welded or laterally braced at 40 foot intervals and at turns of more than 4 feet. Longitudinally bracing shall be supplied at 80 foot intervals. No-hub piping shall be braced at 10 foot intervals or at 40 foot intervals if 1.0g rated couplings are used.
 - 2. Ductwork to be braced every 30 feet (9m) and at every turn and duct run ends. Longitudinal bracing to be provided at 60 foot intervals.
- E. Seismic restraints are not required for the following:
 - 1. Gas piping less than 1" internal diameter.
 - 2. Piping in boiler and MER room that is less than 1 1/4" internal diameter.
 - 3. All other piping and electrical conduit less than 2 1/2" internal diameter.
 - 4. All rectangular ducts less than 6 sq. ft. in cross sectional area.
 - 5. All round ducts less than 28" in diameter.
 - 6. All piping suspended by individual hangers 12" in length or less from the point of the attachment to the duct to the bottom of the support for the hanger.
 - 7. All ducts suspended by hangers 12" or less in length from the point of the attachment to the duct to the bottom of the support for the hanger.
- F. Where base anchoring is insufficient to resist seismic forces, supplementary restraining such as seismic restraint system Type III shall be used above system's center of gravity to suitably resist 'g' force levels. Vertically mounted tanks may require this additional restraint.



- G. For overhead supported equipment, overstress of the building structure must not occur. Bracing may occur from:
1. flanges of structural beams;
 2. upper or lower truss chords in bar joist construction at the panel points;
 3. cast-in-place inserts or drilled and shielded inserts in concrete structures.
- H. Each seismic restraint and snubbing device shall be installed after equipment is installed and fully operational. Each isolation mounting incorporating seismic restraint shall be adjusted to provide the minimum operating clearance in all directions to permit the operation of the equipment without objectional noise or vibration to any part of the building structure. The operating clearance for equipment seismic restraints shall not be greater than $\frac{1}{4}$ " (6mm). Seismic restraints must not result in short-circuiting of isolated equipment.

3.5 INSPECTION

- A. On completion of installation of all vibration isolation and seismic restraint devices herein specified, the local representative of the isolation materials manufacturer shall inspect the complete system and report in writing any installation errors, improperly selected isolation or restraint devices, or other faults that could affect the performance of the system. Contractor shall submit a report to the Commissioner, including the manufacturer's representative's final report, indicating all isolation reported as properly installed or requiring correction, and include a report by the Contractor on steps taken to properly complete the isolation work.

END OF SECTION



SECTION 23 05 53

SYSTEMS IDENTIFICATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project:
1. The Contract Drawings,
 2. The Specifications,
 3. The General Conditions,
 4. The Addendum, and
 5. The Contract [City of New York Standard Construction Contract].

1.2 DESCRIPTION

- A. Provide systems identification in accordance with the Contract Documents.

1.3 WORK INCLUDED

- A. Valve Tags.
- B. Piping Identification.
- C. Equipment Identification.
- D. Duct Identification.
- E. Charts and Schedules.

1.4 SUBMITTALS

- A. Shop Drawings: Submit valve tag chart; pipe, duct and equipment labels, paint and color chart.
- B. Product Data: Manufacturer's latest published data for materials, equipment and installation, including samples of valve tags, equipment identification and piping identification, showing size of lettering.
- C. Maintenance Manuals: Provide valve tag charts for inclusion in maintenance manuals.



1.5 QUALITY ASSURANCE

- A. Piping identification to be in accordance with ANSI A 13.1 - 1996 (latest edition) as to sizes, color, lettering and background color.

PART 2 - PRODUCTS

2.1 VALVE TAGS

- A. Use tags 2 inch minimum diameter, fabricated of brass, stainless steel, aluminum or shatterproof plastic. Attach tags with chain, S-hook or split ring as appropriate.

2.2 PIPING IDENTIFICATION

- A. Provide color coded bands for all piping systems per ANSI-A 13.1-1996.
- B. Adhesive bands to be B350, Perma Code Film markers for indoor use and Quick-Applied mechanically affixed markers for outdoors use, by W.H. Brandy Co.

2.3 EQUIPMENT IDENTIFICATION

- A. Identify mechanical equipment by means of nameplates permanently attached to the equipment. Provide black surface, white core laminated bakelite with engraved letters. Minimum size plates 3" long by 1" wide with white letters 3/8" high. Fan powered terminals do not require nameplates.
- B. Identification of Automatic Controls to be as per Automatic Temperature Control specification.

2.4 DUCT IDENTIFICATION

- A. Stencil system number and service (supply, return, exhaust) onto ducts at strategic locations. Provide arrows to show direction of flow.

2.5 CHARTS & SCHEDULES

- A. Provide two diagrammatic charts of all piping systems showing location, numbers and types of all valves, framed for mounting. Legend to show service (steam, chilled water, etc.) and valve number. Assign numbers by floor.

2.6 ACCEPTABLE MANUFACTURERS

- A. W.H. Brady
- B. Seton
- C. Marking Services Inc.
- D. Metalcraft Inc.
- E. Craftmark Inc.



PART 3 - EXECUTION

3.1 PIPING SYSTEMS

- A. Identify all piping systems with color coded bands per ANSI A13.1-1996, sharply contrasting with background. Locate bands near strategic points, such as valves, items of equipment, changes in direction, wall penetrations, capped stub out for future connection and every 40 feet of straight runs. If necessary, paint a strip background of black or white to obtain contrast.
- B. Each set of bands to consist of one (1) band on which the name of the service is printed in black letters not less than 1½" high, and two (2) bands on which is printed a black directional arrow located on each side of legend. Apply bands where they can be easily read and with their long dimension parallel to the axis of the pipe. Provide bands with backgrounds of different colors from the various service groups.
- C. Do not tag valves whose use is obvious, such as equipment isolation valves.
- D. Provide three schedules of all valves showing number, size, type and service of each valve, suitable for use with three ring binder. Provide separate list for each system.
- E. Drain piping serving mechanical equipment items for which the drain discharge is not visible from the equipment shall be marked in accordance with ANSI 13.1-1996 near the point of discharge indicating the item of equipment served.

3.2 EQUIPMENT

- A. Attach nameplates in a permanent manner in a location that will be clearly visible after installation is complete.

3.3 DUCTWORK

- A. Stenciling to be done after insulation and other duct coverings are completed.
- B. Systems on which duct identification has been covered or is otherwise not visible will not be accepted.

3.4 CHARTS & SCHEDULES

- A. Prepare valve charts in a framed mounting behind a clear covering, such as glass, for protection.
- B. All identifying numbers will correspond to those numbers as shown on Contract Documents, such as riser numbers, equipment numbering, piping and duct symbols, etc.

END OF SECTION



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SECTION 23 05 93

TESTING, ADJUSTING AND BALANCING FOR HVAC WORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project:
1. The Contract Drawings,
 2. The Specifications,
 3. The General Conditions,
 4. The Addendum, and
 5. The Contract [City of New York Standard Construction Contract].

1.2 DESCRIPTION

- A. Provide testing, adjustment and balancing for all water and air systems in accordance with the Contract Documents.

1.3 WORK INCLUDED

- A. Pressure testing of new piping and new duct systems.
- B. Preliminary and final adjustment of all new air systems.
- C. Performance testing of all HVAC systems.
- D. This section covers general duct, pipe and equipment testing. Additional specific equipment tests are covered in individual sections.
- E. Operation of mechanical systems as required for testing by other trades.
- F. Cooperate with independent agent performing controlled inspections.

1.4 SUBMITTALS

- A. Submit the following at least six (6) months prior to the execution of testing during the shop drawing phase:
1. Complete brochure of proposed independent certified balancing firm, listing previous installations successfully balanced, length of time in business, names and qualifications of employees who will be assigned to the project, and list of instruments, equipment and elapsed time schedule to be used on the project.
 2. Procedures and recording forms for testing and adjusting each system and each item of equipment.
 3. Documentation of instrumentation calibration including date of calibration.



4. Complete test and balancing plan listing all testing and balancing procedures. For air and water systems the test and balancing plan submitted must be customized and reflect the actual systems within the project.
- B. Submit the following within two (2) weeks of completion of testing and adjusting.
 1. Submit six (6) certified copies of each complete testing and adjustment report to the Commissioner for review and send two (2) copies of the report to the Commissioner. The Contractor shall submit individual testing and adjustment reports for each individual air distribution system, each return and exhaust system, and each pumping system within two (2) weeks after completion of the testing and adjustment of each system.
- C. Inspection reports: List all system deficiencies found.
- D. Submit a statement of compliance or non-compliance with this specification section.

1.5 QUALITY ASSURANCE

A. Testing

1. SMACNA - 2002 Testing, Adjusting and Balancing.
2. ANSI/ASME B31.9 - 2008; Chapter VI Part 937.
3. ANSI/ASME B31.1 - 2010; Power Piping Code.
4. Local codes.

B. Balancing

1. AABC 2002 National Standards; Air and Hydronic.
 2. NEBB 2005 Edition of the Procedural Standards for Testing, Adjusting and Balancing of Environmental Systems.
 3. SMACNA - 2002 Testing, Adjusting and Balancing.
- C. During the progress of the work, make tests as specified herein and as required by authorities having jurisdiction, including local authorities' Inspection Department, City of New York. Tests shall be conducted by the Contractor as part of the work of this Division. Include all qualified personnel, equipment apparatus, and services required to perform the tests.
- D. Calibrate all instruments used for testing and adjusting within a period of six (6) months prior to testing and/or balancing. Certify instrument calibration as specified in Section 23 00 02.

PART 2 - PRODUCTS

2.1 NOT USED.



PART 3 - EXECUTION

3.1 TESTING

A. General

1. Provide a complete set of approved mechanical and electrical shop drawings and equipment and product submittals to the balancing contractor.
2. Perform all tests required by Codes, Ordinances, and as specified herein, as well as demonstrations of operation for all equipment. Each final test to be witnessed by the Commissioner. Give a minimum of seven (7) days written notice before performing tests.
3. Install all temporary and permanent equipment and instruments required for tests, as well as additional thermometer wells, gauge and instrument connections, at no additional cost.
4. Perform preliminary tests and repair all leaks before notifying the Commissioner of final tests.
5. Repair leaks, damage, or defects discovered during or resulting from tests or replace to a like-new condition. Remove leaky pipe joints, ductwork, etc., and replace with acceptable materials. Retest systems repaired.
6. Maintain a log book of all tests, preliminary and final, showing dates, personnel, observers' initials, description of test, and test status. Provide updated log each month throughout the construction period. Initial log submitted to include listing of all anticipated tests.
7. Testing, balancing, and adjusting will not relieve the Contractor of the warranty requirements.
8. Furnish all fuel, water, and electricity required in performing the testing, balancing and adjustment of mechanical systems.
9. Use calibrated test gauges with at least 4½" diameter dial. Gauge range not to be more than three (3) times test pressure.
10. Provide and demonstrate operation of all test equipment and apparatus required for the complete testing and inspection of all systems at such time and locations as may be directed by the Commissioner.
11. When freezing is a hazard, take all precautions necessary to prevent damage.
12. All tests shall be successfully completed and approved prior to the application of insulation and prior to the concealment of any portion of the system being tested.

B. Piping



1. Before covering or enclosing piping of various systems, all piping must be tested tight for 4 hours. Start and coordinate testing to be completed by 4:30 PM on the day started. The maximum test pressure not to exceed 500 psig. Tests may be witnessed by the Commissioner if he so desires, and pronounced satisfactory before pressure is removed.
2. Equipment must be valved off during the test. Do not pressure test through new equipment if equipment pressure ratings cannot support the test pressure. Drain equipment and piping and protect against freeze-up anytime the ambient temperature is below freezing.
3. Hydrostatically test water piping at 1.5 times' actual maximum working pressure.
4. Refrigerant Piping: Air test at 125% of maximum operating pressure but not exceeding 150 psig for four (4) hours.

C. Ductwork

1. Maximum system leakage shall not exceed 5% of system design capacity. When testing individual segments of a total system, prorate allowable leakage as follows:

$$\text{Maximum Leakage} = \frac{(\text{Surface Area of Test Section})}{(\text{Surface Area of System})} \times (.05) \times (\text{System CFM})$$

- a. Test recording form to include above calculation. When all sections of a system have been tested, submit confirmation that the sum of individual section surface areas is equal to the total system surface area.
2. Pressure tests shall be performed with a test blower. Rig with orifice plate. Test ducts/casings with positive pressure on the discharge side of the system fan and under negative pressure on the suction side of the system fan. Include testing of flexible runouts.
3. During construction, individually test each completed riser, each completed horizontal distribution section and each field erected casing/plenum, as required below.
4. Test ductwork as follows:
 - a. Low Pressure Ductwork (From -2 to +2 inches H₂O inclusive):
 - (1) Exposed or Accessible: Visual and audible check for leaks that can be heard or felt under normal operating conditions.
 - (2) Concealed (i.e., within shafts and above sheetrock ceilings): Pressure test at 2 inches H₂O (pos. or neg. as required).



- b. Medium Pressure Ductwork (Below -2 inches and above +2 inches H₂O): Pressure test at system pressure classification.

3.2 ADJUSTMENT

A. Air Balancing

1. Operate fan systems for as long a time as will be necessary to test air flow from openings, make necessary damper and other adjustments until even distribution is obtained, throughout the various systems, with the air quantities required at each outlet or inlet as shown on the Drawings. Make noise level measurements for the operation of mechanical equipment selected by the Commissioner in order to determine if the equipment produces excessive noise in occupied areas of the building.
2. Before any air balance work is done, test the system for duct leakage, install clean filters, check for correct fan rotation and equipment vibration, check automatic dampers for proper operation, and verify that all fire dampers are open.
3. Fans to be adjusted to deliver above system requirements to compensate for duct leakage.
4. Preliminary adjustment may be made prior to completion of systems; however, final balancing must be done with all systems completely installed and operating, including all air outlets and return grilles.
5. Inspect fan scrolls and remove objects or debris. Inspect coils and remove debris or obstructions. Verify that all fire dampers are open and control dampers are in their proper position.
6. Record the following design requirements for fans and fan motors from the design drawings and reviewed shop drawings:
 - a. Manufacturer, model and size.
 - b. Air quantities - cubic feet per minute.
 - c. Approximate fan speed - revolutions per minute.
 - d. Fan static pressure (total or external) - inches of water.
 - e. Outlet velocity - feet per minute.
 - f. Fan brake horsepower.
 - g. Motor horsepower.
 - h. Volts, hertz, amperes and service factor at design conditions.
7. Record the following data from fans and fan motors installed at the project:
 - a. Manufacturer, model and size.



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- b. Motor horsepower, service factor and revolutions per minute.
 - c. Volts, hertz, full load amperes and service factor.
 - d. Motor starter and heater size.
 - e. Equipment location.
8. Completely adjust fans and duct systems by the adjustment of sheaves, dampers, and other volume and diverting control devices, to obtain the air quantities indicated in the Contract Documents. Integral dampers in terminal outlets and inlets are not to be used for adjustment of duct branches. Adjust outside air and return air modulating dampers to admit the specified quantities of air under all cycles of operation. Adjust final air quantities within 5% of the design requirements. Balance air outlets with air pattern as shown on the Drawings.
9. Record the following test data for fans and fan motors installed at the project at final balanced conditions:
 - a. Fan speed - revolutions per minute.
 - b. Fan suction, discharge and total static pressure (external or total) - inches of water.
 - c. Static pressure drops across filters, dampers, coils, washers and eliminators in the supply fan casings in inches of water.
 - d. Motor operating amperes and voltage per phase at operating conditions.
 - e. Fan cubic feet per minute as required above.
 - f. Calculated brake horsepower.
10. Balance and adjust supply air systems as follows:
 - a. Systems installed with trunk ducts only, with no air outlets, to be balanced by adding a volume damper at each end of the trunk duct (minimum of two (2) dampers per system if duct is looped). Make adjustments to the air handling units as required to deliver the volume of air within 10% of design flow at the static pressure and cold air supply temperature shown on the Drawings. Remove dampers and seal or re-cap openings after reports have been accepted by Commissioner.
 - b. Systems installed with main duct capped at wall of fan room will be balanced by installing an opposed blade damper at each capped connection. Make adjustments as required to deliver the volume of air within 10% of design flow at the static pressure and cold air supply temperature shown on the Drawings. Remove dampers and re-cap openings after reports have been accepted by Commissioner.



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3.3 FINAL REPORT

- A. If the work is completed during the heating season, perform the final tests of cooling equipment the following summer; if completed during the summer, perform test on heating system the following winter.
- B. After each seasonal adjustment is made, prepare a detailed report and submit to the Commissioner for approval.
- C. Demonstrate to the Commissioner, prior to acceptance by the City of New York, that all systems and/or equipment have been balanced and adjusted properly, and that the system and/or equipment is in compliance with the Contract Documents.

END OF SECTION



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SECTION 23 07 00

INSULATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. The following documents apply to all required work for the Project:

1. The Contract Drawings,
2. The Specifications,
3. The General Conditions,
4. The Addendum, and
5. The Contract [City of New York Standard Construction Contract].

1.2 DESCRIPTION

A. Provide thermal insulation in accordance with the Contract Documents.

1.3 WORK INCLUDED

- A. Piping Insulation.
- B. Duct Insulation.
- C. Equipment Insulation.

1.4 SUBMITTALS

- A. Shop Drawings: Submit list of insulation to be used for each service.
- B. Product Data: Manufacturer's latest published data for materials, "R" values and installation.
- C. Provide BS&A or MEA numbers.

1.5 QUALITY ASSURANCE

- A. All insulating materials to be free of asbestos.
- B. Comply with all requirements of ASTM for thermal and moisture transmission.
- C. Provide insulation (including insulation jacket or facing and adhesives used to adhere the facing or jacket to the insulation) with non-combustible material meeting Code requirements and fire and smoke hazard ratings as tested by procedure ASTM E-84, National Fire Protection Association 255, and UL 723, not exceeding



flame spread 25 and smoke developed 50. Adhesives, mastics, cements, etc. shall not exceed the same component ratings. Foam glass insulation to be manufactured in accordance with ASTM C552.

- D. All insulating products and coverings to be U.L. listed.
- E. All insulation thicknesses shall be at least the minimum thickness required by AHRAE 90.1 – 2001 for the respective services, materials and project location.
- F. Insulation materials, including all weather and vapor barrier materials, closures, hangers, supports, fitting covers, and other accessories, shall be furnished and installed in strict accordance with project drawings, plans, specifications and manufacturer's requirements.
- G. Insulation materials and accessories shall be installed in a workmanlike manner by skilled and experienced workers who are regularly engaged in commercial insulation work.

1.6 DELIVERY AND STORAGE OF MATERIALS

- A. All of the insulation materials and accessories covered by this specification shall be delivered to the job site and stored in a safe, dry place with appropriate labels and/or other product identification.
- B. The contractor shall use whatever means are necessary to protect the insulation materials and accessories before, during, and after installation. No insulation material shall be installed that has become damaged in any way. The contractor shall also use all means necessary to protect work and materials installed by other trades.
- C. If any insulation material has become wet because of transit or job site exposure to moisture or water, the contractor shall not install such material, and shall remove it from the job site.

PART 2 - PRODUCTS

2.1 PIPE INSULATION

A. Materials

- 1. When the temperature of a fluid falls within the following temperature ranges at any time during the system cycle, provide the insulation thickness indicated.

Service	Temp. Range °F	Material	Insulation Thickness In Inches for Pipe Sizes In Inches				
			less than 1 in.	1 in. to less than 1- 1/2 in.	1-1/2 in. to less than 4 in.	4 in. to less than 8 in.	8 in. and larger



Service	Temp. Range °F	Material	Insulation Thickness In Inches for Pipe Sizes In Inches				
			less than 1 in.	1 in. to less than 1- 1/2 in.	1-1/2 in. to less than 4 in.	4 in. to less than 8 in.	8 in. and larger
Steam (125 psig and higher) and HTHW	351 to 450	Glass Fiber	2-1/2	3	3	4	4
Steam (16 psig to 124 psig) and MTHW	251 to 350	Glass Fiber	2	2-1/2	3	3	3
Steam (15 psig and lower), steam condensate and boiler feed water.	201 to 250	Glass Fiber	1-1/2	1-1/2	2	2	2
Hot Water and glycol	141 to 250	Glass Fiber	1-1/2	1-1/2	2	2	2
Hot Water and glycol	105 to 140	Glass Fiber	1	1	1	1-1/2	1-1/2
Water, glycol, brine	40 to 60	Glass Fiber	1/2	1	1	1	1
Chilled water, glycol, brine	Below 40	Glass Fiber	1	1-1/2	1-1/2	1-1/2	1-1/2
Condensate drains above hung ceilings and in shafts	-	Glass Fiber	1/2	1/2	1/2	1	1
Refrigerant	Below 40	Glass Fiber	1	1-1/2	1-1/2	--	--
Domestic Fresh Water	-	Glass Fiber	1	1	1	1	1
Refrigerant hot gas (exposed)	Above 100	Glass fiber	1/2	1/2	1/2	--	--
Water, Brine Glycol	60 and below	Foam Glass	1	1	1	1 ½	2



Service	Temp. Range °F	Material	Insulation Thickness In Inches for Pipe Sizes In Inches				
			less than 1 in.	1 in. to less than 1- 1/2 in.	1-1/2 in. to less than 4 in.	4 in. to less than 8 in.	8 in. and larger

- B. Provide insulation materials and thickness for steam piping and metering equipment at the building service entry in accordance with Utility Company requirements.
- C. Fiberglass Density: Fiberglass pipe insulation in equipment rooms and/or where exposed to be of the sectional type having 6 lbs./cu. ft. density. Other fiberglass insulation to be of the 1-piece type with at least 4 lbs./cu. ft. density.
- D. Thermal conductivity of fiberglass to be .23 BTU/hr/inch/sq.ft./°F/at a mean temperature of 75°F.
- E. Foam glass density to be 8 lbs/cu. ft.
- F. Thermal conductivity of calcium silicate to be .32 BTU/hr/inch/sq.ft./°F/at a mean temperature of 100°F.
- G. Thermal conductivity of foam glass to be .32 BTU-in/hr.ft.2 °F at a mean temperature of 75°F.
- H. Insulation Jackets
1. Concealed pipes carrying fluids 105°F and above. Factory applied white fire retardant jacket, (ASJ), stapled and banded. Pipes banded with not less than 3 bands per section.
 2. Exposed pipes carrying fluids 105°F and above. Factory applied white fire retardant jacket, (ASJ), with butt strips stapled and banded. Pipes banded with not less than 3 bands per section.
 3. Pipes carrying fluids 60°F and below up to 14 inches. Factory applied white fire retardant vapor barrier jacket with self-sealing lap (ASJ) and butt strip. Ends of pipe insulation sealed off at valves, fittings and flanges with I.C. 301 or FB 30-35).
 4. Pipes carrying fluids 60°F and below over 14 inches. Factory applied white fire retardant vapor barrier jacket (ASJ) sealed with I.C. 215 (or BF 82-07) adhesive. All circumferential joints wrapped with a 3 inch wide strip of white fire retardant jacket adhered with I.C. 215 (or BF 72-07) adhesive. Ends of pipe insulation sealed off at valves, fittings and flanges with I.C. 301 (or BF 30-35).
 5. Finish calcium silicate with glass cloth adhered with I.C. 501 or BF 30-36.
 6. Vapor barrier jacket permeability to be 0.02 perms.



7. Jacket Puncture Resistance to be 50 units (Beach).
8. When multiple layers are required, all inner layer(s) shall be No Wrap.
9. On cold systems, vapor barrier performance is extremely important. All penetrations of the ASJ and exposed ends of insulation shall be sealed with vapor barrier mastic. If humidities in excess of 90% are expected, the ASJ shall be protected with either a mastic coating or a suitable vapor retarding outer jacket. Vapor seals at butt joints shall be applied at every fourth pipe section joint and at each fitting to provide isolation of water incursion.

I. Fittings, Valves and Flanges

1. Where manufactured, use factory premolded fittings (of the same material and thickness as the pipe insulation) for fittings, flanges and valves.
2. Where premolded insulation fittings are not manufactured, insulate fittings, flanges and valves with mitered segments of the same thickness and density as the adjoining pipe covering.
3. On cold systems, particular care must be given to vapor sealing the fitting cover or finish to the pipe insulation vapor barrier. All valve stems shall be sealed with caulking to allow free movement of the stem but provide a seal against moisture incursion.

J. Piping located outdoors and exposed to the weather shall be insulated as indicated above. The insulation shall then be protected with the following weatherproof finishes:

1. Metal jacketing shall be 0.016" (0.4 mm) minimum aluminum or stainless steel with moisture barrier, secured in accordance with the jacket manufacturer's recommendations. Joints shall be applied so they will shed water and shall be sealed completely.
2. UV resistant PVC jacketing may be applied in lieu of metal jacketing provided jacketing manufacturer's limitations with regard to pipe size, surface temperature, and thermal expansion and contraction are followed.
3. Fittings shall be insulated as prescribed above, jacketed with preformed fitting covers matching outer jacketing used on straight pipe sections, with all joints weather sealed.
4. On outdoor chilled water and refrigerant lines, the insulation system shall be completely vapor sealed before the weather-resistant jacket is applied. The outdoor jacket shall not comprise the vapor barrier by penetration of fasteners, etc. Vapor stops at butt joints shall be applied at every fourth pipe section joint and at each fitting to provide isolation of water incursion.



2.2 DUCTWORK INSULATION

A. Glass Fiber Blanket

1. Glass fiber blanket insulation shall be insulated with 0.75 pcf (12 kg/m³) density, FSK-faced fibrous glass duct wrap insulation having a k-value of .28 Btu•in/(h•ft²•°F).
2. The duct wrap insulation shall consist of a blanket-type insulation composed of wool-type glass fibers firmly bonded with a thermosetting resin. Duct wrap material shall be factory-laminated to a scrim reinforced, foil-kraft (FSK) vapor retarder facing have a 2" (51 mm) stapling flange on one edge.
3. When installed in accordance with recommended installation procedures, duct wrap insulation shall provide installed R-values as follows:

<u>DENSITY</u>	<u>LABELED THICKNESS</u>	<u>INSTALLED R-VALUE</u>
.75# (12 kg/m ³)	1-1/2" (38 mm)	4.2
.75# (12 kg/m ³)	2" (51 mm)	5.6
.75# (12 kg/m ³)	2-1/8" (54 mm)	6.0
.75# (12 kg/m ³)	2-1/4" (57 mm)	6.5
.75# (12 kg/m ³)	2-1/2" (64 mm)	7.0
.75# (12 kg/m ³)	3" (76 mm)	8.5
1.0# (16 kg/m ³)	1-1/2" (38 mm)	4.5
1.0# (16 kg/m ³)	2" (51 mm)	6.1
1.5# (24 kg/m ³)	1-1/2" (38 mm)	4.8
1.5# (24 kg/m ³)	2" (51 mm)	6.4

B. Fiberglass Duct Board

1. Material to be high-density fiberglass duct board with foil kraft laminate facing, reinforced with scrim. Maximum thermal conductivity (K-value) at 75°F (24°C mean temperature to be 0.23 Btu – in/hr. – sq. ft. -°F (0.035 w/m - °C) when tested in accordance with ASTM C518 or ASTM C177.

C. Application

Service	Material	Insulation Thickness (inches)
Heated or Cooled Supply Air Ducts, concealed in unconditioned spaces, including shafts and hung ceilings	Glass Fiber Blanket	1-1/2
Heated or Cooled Supply Air Ducts, in hung ceilings used as Return Air Plenums	Glass Fiber Blanket	3/4
Heated Supply Air Ducts exposed in	Glass Fiber Board	1-1/2



Service	Material	Insulation Thickness (inches)
unheated space		
Cooled Supply Air Ducts exposed in unconditioned space	Glass Fiber Board	1-1/2
Return & Relief Air Ducts from heated or cooled spaces in unconditioned spaces including shafts and hung ceilings.	Glass Fiber Blanket	1
Return and relief air ducts from heated or cooled spaces in exposed locations.	Glass Fiber Rigid Board	1
Outside Air Intake Ducts & Plenums from intake louver to supply system .	Glass Fiber Rigid Board	1-1/2
Outside air ducts in shafts.	Glass Fiber Blanket	1-1/2
Outside air ducts in hung ceilings	Glass Fiber Blanket	2 layers – 1-1/2 in. each
Unused portion of louvers where blanked off with sheetmetal	Glass Fiber Rigid Board	1-1/2
Exhaust or Relief Air Ducts from automatic louvered damper to discharge at exterior openings	Glass Fiber Rigid Board	1

- D. Rigid Glass Fiber Board to be six (6) pound per cu. ft. density with factory applied white fire retardant jacket (ASJ). Apply with mechanical fasteners. Seal joints and breaks.
- E. Ventilating systems (which are neither heated nor cooled) supply ducts need not be insulated.

PART 3 - EXECUTION

3.1 INSTALLATION OF INSULATION - GENERAL

- A. Perform work in strict accordance with the manufacturer's recommendation and the best practice of the trade and the intent of this specification.
- B. Ensure that insulation is clean, dry, and in good mechanical condition with all factory-applied vapor or weather barriers intact and undamaged. Wet, dirty, or damaged insulation shall not be acceptable for installation.
- C. Apply insulation over clean dry surface, butting sections or surfaces firmly together and finishing as specified.



- D. Seal vapor barriers in a continuous manner throughout against moisture penetration.
- E. Insulation to be continuous through wall, floor and ceiling openings or sleeves. Do not cover any nameplates or identification tags.

3.2 INSULATION OF DUCT WORK AND FITTINGS

- A. No insulation shall be installed until ductwork has been pressure tested or leak tested as specified elsewhere to the satisfaction of the engineer.
- B. Before applying duct wrap, steel metal ducts shall be clean, dry, and tightly sealed at all joints and seams.
- C. All portions of duct designated to receive duct wrap shall be completely covered with duct wrap.
- D. To ensure installed thermal performance, duct wrap shall be cut to "stretch-out" dimensions as follows (P = perimeter of duct in inches/mm):

Labeled Thickness	Average Installed Thkns.	Thickness Calculation To Arrive at Correct Installed Thickness		
		Round Duct	Square Duct	Rectangular Duct
1-1/2" (38 mm)	1.125 (29 mm)	P+ 9.5" (241 mm)	P+ 8.0" (203 mm)	P+ 7.0" (178 mm)
2" (51 mm)	1.5" (38 mm)	P+ 12.0" (305 mm)	P+ 10.0" (254 mm)	P+ 8.0" (203 mm)
2-1/4" (57 mm)	1.69" (43 mm)	P+ 13.5" (343 mm)	P+ 11.5" (292 mm)	P+ 9.0" (229 mm)
2-1/2" (64 mm)	1.88" (48 mm)	P+ 14.5" (368 mm)	P+ 12.5" (318 mm)	P+ 9.5" (241 mm)
3" (75 mm)	2.25" (57 mm)	P+ 17.0" (432 mm)	P+ 14.5" (368 mm)	P+ 11.5" (292 mm)

- E. A 2" (51 mm) piece of insulation shall be removed from the facing at the end of the piece of insulation to form an overlapping stapling and taping flap
- F. Install duct wrap insulation with facing outside so that the stapling flap overlaps the insulation and facing at the other end of the piece of duct wrap. Adjacent sections of duct wrap insulation shall be tightly butted, with the 2" (51 mm) stapling and taping flap overlapping. If ducts are rectangular or square, install so insulation is not excessively compressed at corners. Seams shall be stapled approximately 6" (152 mm) on center, with 1/2" (13 mm) minimum, steel, outward-clinching, staples.
- G. Where a vapor barrier is required, seams shall be sealed with pressure-sensitive tape matching the insulation facing, either plain foil or fil-scrim-kraft (FSK). Seal all tears, punctures, and other penetrations of the duct wrap facing with tape or mastic to provide a vapor-tight system.
- H. Wherever external duct insulation is specified and internal acoustic treatment of equivalent insulating effect is also required (by Drawings or Specifications) for the same location, the external insulation may be omitted.



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- I. Cover ductwork exposed to outdoor conditions, including spaces ventilated with outdoor air, with an additional 2-inch thickness of rigid glass fiber board 6 lbs./cu.ft., faced with factory applied all-service jacket, Johns-Manville Type 817 Spin-glas AP, or as approved.
- J. Apply vaporseal board by mechanical fasteners such as Graham pins and speed washers. Seal joints with an adhesive, as approved and reinforced with a glass cloth membrane over vinyl mastic, or self-sealing matching tape. Butter pinheads with an adhesive, as approved. If vaporseal board is wired, use tin edges to protect the corners of the board. Seal edges and joints.
- K. Enclose removable heads for equipment, (such as coolers, heat exchangers and horizontally split pumps) in aluminum sheetmetal boxes for easy removal with fiberglass board applied to inside of sheetmetal boxes of thickness as described above. Provide lifting handles for removal of boxes.
- L. Install equipment insulation furnished loose by the equipment manufacturer in accordance with manufacturer's instructions.

3.3 PIPING INSULATION

- A. No insulation must be installed at fittings and joints until the piping systems have been hydrostatically tested as specified elsewhere to the satisfaction of the Engineer.
- B. Provide insulation for removable flanges of pipe strainers on cold services with built-up sections of glass fiber pipe covering, arranged to facilitate servicing of the strainer. Complete applications with vaporseals. Vapor barriers to be sealed and continuous through hangers, walls, sleeves, etc. Adhesives and coatings to be as noted herein.
- C. Insulate fittings, flanges, valves, etc. for services where calcium silicate insulation is specified with mineral wool cement of equal thickness to the pipe insulation and finished with glass cloth.
- D. Piping Exposed to Outdoor Conditions, Pipes in Spaces that are not heated and Pipes Subject to Freezing: Cover piping with an additional layer of 2 inches glass fiber insulation of the same finish as specified for the particular service in paragraph 2.1, but not less than 3 inches total thickness. All piping subject to freezing will be insulated with a minimum of 2" fiberglass.
- E. Insulate heat-traced piping as specified for piping exposed to outdoors. Cover with an aluminum jacket, as specified for piping exposed to the outdoors.
- F. Notify Mechanical Contractor of any leaks in pipe or joints. Do not insulate until leaks have been repaired. Replace all insulation dampened by leaks.
- G. Apply prefabricated sectional insulation for straight pipes neatly fitted around the piping, and sealed with adhesive. Apply adhesive to only one side of each joint and not to pipe surface.
- H. Seal all joints with Foster 30-35 fire resistant vapor barrier mastic. Where required, oversized pipe sections or board type insulation may be used to fabricate and install



insulation around pipe specialties. All void space must be firmly filled with flexible insulation to support oversized pipe insulation.

- I. Maintain the integrity of factory-applied vapor barrier jacketing on all pipe insulation, protecting it against puncture, tears or other damage. All staples used on cold pipe insulation shall be coated with suitable sealant to maintain vapor barrier integrity.
- J. Secure sectional insulation with 0.02" thick by 1/2" wide aluminum bands manufactured by Childers, or Thomas & Betts "TY-RAP" nylon ties, on 24" centers for pipe sizes 2" and larger. Install at least two (2) bands per section of insulation.
- K. Insulate cold water ball valves with 3/4" thick flexible elastomeric sheet insulation (ASTM C534) or approved equal as detailed on the Drawings. Finish insulation with two (2) coats of Rubatex 374 coating.
- L. Insulate cold water vertical riser support clamps.
- M. Insulate and thoroughly vapor seal control valve bodies where the valve actuator penetrates the insulation.
- N. Replace any self-sealing insulation and/or lap that is found to be not sealing properly. Do not use staples to secure the insulation, lap, or coverings.
- O. Thermal Insulation for Engine Exhaust Piping
 - 1. Insulate entire engine exhaust pipe, from the engine expansion connection to the muffler to outside the building, with three (3) layers of 1 1/2" thick hydrous calcium silicate non-asbestos insulation (ASTM C533), installed over spacers to allow a 1" air space between pipe and insulation.
 - 2. Stagger joints for the first, second and third layers.
 - 3. Apply aluminum jacket (ASTM B209) over outer layer of insulation as specified for piping exposed to weather.
 - 4. Insulate exhaust muffler in the same manner as the exhaust piping.
 - 5. Wrap or pack all protrusions through the insulation with refractory fiber. Seal all joints and cracks over 1/8" wide.
 - 6. Provide expansion joints in the insulation and aluminum jacket as recommended by the manufacturer to allow for differential expansion between the exhaust pipe, insulation and jacket.

3.4 FINISHING OF INSULATION

- A. Finish hot service pipe fittings and valve applications with open weave glass mesh adhered with I.C. 501 (or BF 30-35). Vaporseal for cold applications with I.C. 501 (or BF 30-35) adhesive with open weave glass mesh laid in while wet with final coat with I.C. 501 (or BF 30-35) adhesive. Overlap glass mesh and outer coat adjacent covering by at least 2 inches. Do not insulate flanges until systems are operational.



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- B. Where insulation on kitchen exhaust ducts, diesel engine exhaust, boiler stacks and breeching is exposed, finish with two (2) coats of cement over hexagonal copper clad steel wire. Finish to be at least 1/2 inch thick.

3.5 PROTECTION OF INSULATION

- A. Protect pipe covering at hangers, guides, and roller supports with 16 gauge galvanized metal shields or saddles (at least 3 times the insulation diameter in length and 1/3 the insulation circumference in width) on the outside of the insulation and vapor barrier. Hold shields in place with straps. Do not pierce the insulation with hangers. Where glass fiber insulation is used on piping 3 inches and larger, provide half-section of calcium silicate covering of equal thickness at metal shields.
- B. Piping Exposed to Outdoors: Cover insulated piping exposed to outdoors or called for to be weatherproofed, in addition to finishes specified, with an aluminum jacket similar to Johns-Manville "Metal-Lok" or as approved, including all fittings.
- C. Exposed insulated piping in parking garages shall be provided with an aluminum insulation jacket similar to "Johns-Manville" "Metal-Lok."
- D. Exposed insulated piping in mechanical equipment rooms located 8 feet or less above the floor or where subject to traffic shall be provided with an aluminum insulation jacket similar to Johns-Manville "Metal-Lok".

3.6 INSPECTION

- A. Upon completion of installation of duct wrap and before system operation is to commence, visually inspect the system and verify that duct insulation has been correctly installed.
- B. Open all system dampers and turn on fans to purge all scraps and other loose pieces of material from the duct system. Allow for a means of removal of such material from the duct system.
- C. Check the duct system to ensure that there are no air leaks through duct joints.
- D. Fill surface imperfections such as chipped edges, small joints or cracks and voids or holes with insulation material and smooth all such areas with a skim coat of insulating cement.

3.7 SAFETY PRECAUTIONS

- A. Contractor's employees shall be properly protected during installation of all insulation. Protection shall include proper attire when handling and applying insulation materials, and shall include (but not be limited to) disposable dust respirators, gloves, hard hats, and eye protection.



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- B. The Contractor shall conduct all job site operations in compliance with applicable provisions of the Occupational Safety and Health Act, as well as with all state and/or local safety and health codes and regulations that may apply to the work.

END OF SECTION



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SHEETMETAL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project:
 - 1. The Contract Drawings,
 - 2. The Specifications,
 - 3. The General Conditions,
 - 4. The Addendum, and
 - 5. The Contract [City of New York Standard Construction Contract].

1.2 DESCRIPTION

- A. Provide all ductwork required to make the various air conditioning, ventilating and heating systems complete and ready for operation in accordance with the Contract Documents.

1.3 WORK INCLUDED

- A. General Ductwork.
- B. Duct Accessories.
- C. Flexible Duct.
- D. Outdoor Duct.
- E. Belt Guards.
- F. Access Doors.
- G. Flexible Connections.
- H. Plenums.
- I. Louvers.
- J. Drain Pans.
- K. Duct Sealant.

1.4 SUBMITTALS

A. Shop Drawings

1. Submit sheetmetal shop details for approval before any duct layouts are submitted for review. Shop drawings will not be acted on before shop details have been reviewed.
2. Submit layouts of all ductwork drawn to a scale of 3/8" to the foot for approval.
3. Submit drawing of location and size of sleeves for openings in floors and walls.
4. Sheetmetal ductwork drawings serve as the base sheets for the Contractor Coordination Drawings specified in General Conditions. Submit ductwork shop drawings for review as specified in General Conditions.

B. Samples

1. Submit samples of flexible ducting and special materials, as required by the Commissioner.

1.5 QUALITY ASSURANCE

- A. Construct ductwork according to the pressure-velocity classifications established by SMACNA, and as called for on the duct drawings.
- B. Construct ductwork in accordance with Table 1-5 of the 1995 SMACNA Manual for 2" static pressure ductwork and Table 1-6 of the 1995 SMACNA Manual for 3" static pressure ductwork, with the exception that tie rods may not be utilized in ductwork 60" wide and smaller.
- C. Provide flexible duct assembly listed as Class 1 air duct by the Underwriters Laboratories under UL-181 "Standard for Factory-Made Air Duct Material and Air Duct Connections" at a flame spread of not over 25 and a smoke developed rating of not over 50 complying with NFPA Standard 90A.
- D. Flexible air ducts to have a heat loss per foot of duct as measured by Air Diffusion Council Flexible Air Duct Test Code FD 72-R1 and be UL listed as Class I under UL-181.
- E. Comply with OSHA standards and requirements.

PART 2 - PRODUCTS

2.1 GENERAL DUCTWORK

- A. Construct sheetmetal ductwork of galvanized iron of gauges specified in SMACNA Tables 1-4 to 1-9, unless otherwise called for on the Drawings.



- B. Unless otherwise indicated or specified, construct all sheetmetal ductwork in accordance with the HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE, Second Edition, 1995, published by the Sheetmetal and Air Conditioning Contractors National Association, Inc., and herein referenced as the SMACNA Manual. Various page numbers, table numbers, plate numbers, detail numbers, and figure numbers herein cited refer to this edition of the SMACNA Manual. Install all ductwork in accordance with the arrangements and sizes shown on the Drawings and as specified herein.
- C. Construct low pressure ductwork of "lock forming quality" galvanized steel of the gauge thickness listed in Tables 1-5 for the pressure class indicated of the 1995 SMACNA Manual with gauge tolerances as listed in Appendix A-2 of the 1995 SMACNA Manual. Comply with ASTM A-525 for all steel with a hot dipped galvanized coating weight that complies with the G90 section of ASTM A525 and ASTM 90.
- D. Construct all ducts exhausting humid air from dishwashers, glasswashers, showers, driers, and as called for on the drawings of type 316 welded stainless steel. On horizontal ducts provide pan construction with longitudinal seams at the side or on top. Provide drain pipes to indirect waste at all low points of the ductwork.
- E. Construct all ductwork exposed, or concealed in non-ventilated ceilings, in pool areas of 316 stainless steel.
- F. For rectangular ductwork, use radius elbows without vanes with centerline radius equal to $1\frac{1}{2}$ times duct width. Where space is limited, use either curved elbow with single vane and with centerline radius not less than width of duct, or use square vaned elbow. For square elbows, use single thickness vanes for ducts up to 18 inches wide and double thickness airfoil vanes in ducts over 18 inches wide. Hold vanes in runners. See SMACNA Detail Fig. 2-3 and 2-4 of Standards. Construct turning vanes constructed of the same material as the ductwork in which they are installed.

2.2 DUCT ACCESSORIES

- A. Provide spin-in fittings for connecting flexible duct to sheetmetal duct, incorporating die-formed locking groove with adjustable damper using spring loaded retractable bearing and positive locking regulator.
- B. Provide turning vanes in all 90° elbows where shown on the Drawings. Provide double fin type with 2" inside radius for small vanes (Figure 2-3) and $4\frac{1}{2}$ " inside radius for large vanes (Figure 2-3). Provide small vanes spaced no more than $2\frac{1}{8}$ " apart for ducts up to 18" wide. Provide large vanes spaced no more than $3\frac{1}{4}$ " apart for ducts 19" wide. Shop-fabricated turning vanes will not be acceptable unless they are machine shaped, punched and assembled. Use radius elbows where shown on the Drawings and for elbows 24" in width and smaller. Use radius elbows in accordance with Type RE-1 and RE-3, in Figure 2-2 of the SMACNA Manual.

2.3 FLEXIBLE DUCTWORK

- A. Provide flexible duct as a factory glass fiber insulated assembly with vapor barrier jacket and a maximum thermal conductance (C-factor) of 0.23 Btu per Hr per SF per °F at 75°F. Construct flexible duct of machine wound spiral aluminum helix,



reinforced aluminum foil fabric mechanically locked into a spiral aluminum helix, or two-ply polyester core encapsulating a galvanized steel wire helix suitable for a positive working pressure of at least 10" w.c.

B. Acceptable Manufacturers

1. Genflex
2. Thermaflex
3. Flexmaster

2.4 OUTDOOR DUCTWORK

- A. Coat galvanized ductwork, except kitchen range hood exhaust, exposed to the weather with a coat of CAD-A-MASTIC 800, Fibrated Asphalt Emulsion, as manufactured by EPOLUX, or approved equal; cover joints with glass fabric tape and apply a second coat of CAD-A-MASTIC 800.

2.5 BELT GUARDS

- A. Provide guards on all belt drives. Provide split type with tachometer opening at shafts fabricated from galvanized metal and braced to prevent rattling.
- B. Use solid or expanded metal on motors up to 5 horsepower.
- C. Use expanded metal on motors 7½ horsepower and up.
- D. Use angle frames on motors 25 horsepower and larger.
- E. Provide sufficient space so that sheaves can be changed to larger sizes.

2.6 ACCESS DOORS IN SHEETMETAL

- A. Where required in ductwork or casings, provide suitable access doors and frames to permit inspection, operation and maintenance of apparatus concealed behind the sheetmetal work. Provide access doors in insulated ducts of insulated double panel construction, not less than 20 gauge, galvanized steel. Provide access doors in uninsulated ducts of single panel construction not less than No. 18 gauge, galvanized steel. Provide all access doors with sponge rubber gaskets around their entire perimeter.
- B. Hang access doors in ductwork in separate frames and attached to duct with aircraft type cable. Provide "Ventlok No. 100" cast zinc latches one (1) per side.
- C. Install hinged walk-in type casing access doors where required and indicated on the Drawings. Construct casing access doors 57" high x 24" wide where possible and be complete with heavy duty hinges, hardware, and Ventlok #260 latch handles. See figures 6-11 and 6-12, and Table 6-2 of the 1995 SMACNA Manual.

2.7 PLENUMS

- A. Provide air plenums for return and exhaust fans of "single casing" construction of No. 16 gauge galvanized iron braced and stiffened on outside by means of 2 inches



by 2 inches by ¼ inch steel angles, or with standing seam panels not to exceed 26 inches in width.

- B. Provide discharge and intake air plenums for connecting the fresh air intake and discharge openings to the various systems, as shown on the Drawings, of No. 16 gauge aluminum construction, braced and stiffened on outside by means of 2 inches by 2 inches by ¼ inch aluminum angles, or with standing seam panels not to exceed 26 inches in width.

2.8 LOUVERS

- A. Furnish and install all louvers indicated on the Drawings unless specifically indicated to be provided by others. Size louvers as indicated on the Drawings and suitable for installation in the mounting arrangement shown on the Architectural Drawings and described in the Architectural Specification.
- B. Construct louvers of 0.125" thick extruded aluminum stationary hook blades. Louver depth is 4". Design supports to meet the wind requirements established by local codes. Maximum allowable span between mullions is 10 feet. Design louvers with a net 50% free area. There shall be no water penetration at 700 FPM free area velocity. Provide for noiseless expansion and contraction of all materials and assemblies due to temperature changes in a range between 17°F and 180°F without detriment to appearance or performance.
- C. Acceptable Manufacturers
 - 1. Ruskin
 - 2. Arrow
 - 3. Air Balance

2.9 AUXILIARY DRAIN PANS

- A. Construct drain pans of 16 gauge galvanized steel with all joints brazed. Construct pans watertight with hemmed edges.
- B. Under any equipment for which a pan is shown on the Drawings, and under all horizontal air handling units, duct mounted hot water or chilled water coils located above hung ceilings or electrical equipment, piping over electrical equipment, etc., furnish and install auxiliary drain pans. Extend the auxiliary drain pan at least 6" beyond the equipment it is serving and be at least 2" high.
- C. Provide drain pipe connections of at least 3/4", or as shown on the Drawings. Unless otherwise shown on the Drawings, route a 3/4" IPS galvanized steel or Type "L" copper tube to the nearest equipment room floor or hub drain independent of any air handling unit drains.

2.10 SCREENS

- A. Furnish and install all wire mesh screens indicated in the Construction Documents.
- B. Fabricate frame of extruded aluminum with mitered reinforced corners.



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- C. Provide non-rewireable frame with permanently secured screen mesh.
- D. Provide mesh of ½ inch square, .063 inch intercrimped aluminum wire.

2.11 DUCT SEALANT

- A. Seal all joints and seams on medium and high pressure ductwork with an oil soluble elastomer sealant.
- B. Sealant to be fast curing to a firm rubbery seal and have gap filling properties with smooth easy caulking characteristics.
- C. Sealant to be gray in color.
- D. Acceptable Manufacturers:
 - 1. 3M Fastbond 900
 - 2. Foster 32-14
 - 3. MEI 44-50
 - 4. Hardcast Sure Grip 404

PART 3- EXECUTION

3.1 GENERAL

- A. Execute the Work in strict accordance with the best practices of the trade and with these Specifications. Ductwork leakage in excess of SMACNA Standards for the seal class listed will not be acceptable. Seal ductwork with an approved U.L. listed water base sealant as required to comply with this leakage requirement.
- B. Adhere to Drawings as closely as possible. The right is reserved to vary the runs and sizes of ductwork and to make offsets, where necessary to accommodate conditions arising at the building.
- C. Make joints and seams smooth on the inside and a neat finish on the outside. Make duct joints airtight with laps made in the direction of air flow and no flanges projecting into the air stream. Provide ducts adequately braced to prevent vibration. Provide intermediate reinforcing and/or tie rod construction where necessary. Seal joints and seams according to SMACNA Standards.
- D. Construct all longitudinal duct seams and joints as "Pittsburg Lock" or "Button Punch Snap-Lock" at the corners and Acme "Lock Grooved Seam" or "Automatic Seam Weld" in sides between corners. See Figure 1-5 of the SMACNA Manual. Provide sealant as required so that the leakage rates specified are not exceeded. Use Hard Cast CS-1001 sealer or equivalent for use in longitudinal duct seams, and Hard Cast IG-601 or Kingco 10-526 for external application on ductwork joints.
- E. On welded stainless steel ductwork, use extra low carbon grade steel (316L). All welds to be pickled to remove weld oxide. Passivate stainless surface after welding to remove embedded foreign material.



- F. Duct sizes indicated for internally lined ducts are the net duct dimensions. Increase ducts in both dimensions by twice the thickness of the liner making the actual sheetmetal dimension larger by thickness of the liner. Provide duct liner material and thickness as specified.
- G. Thoroughly clean the interior of all ductwork after installation, and prior to use. Operate all fans and remove all debris and foreign matter from the duct.
- H. Wherever it may be necessary to make provision for vertical hangers of the ceiling construction passing through ducts, provide streamlined shaped sleeves around such ceiling construction hangers. Make all such streamlined sleeves airtight at top and bottom of ducts.
- I. Suspend all ductwork properly supported from the building structure. The duct hanging system is composed of three elements; the upper attachment to the building, the hanger itself, and the lower attachment to the duct. Construct the attachments, hangers and supports for all ductwork in accordance with Figures 4-1 through 4-9 and Tables 4-1 through 4-3 of the 1995 SMACNA Manual. Submit the details for the upper attachment to the building to the Base Building Structural Engineer for review prior to submission to the Engineer.
- J. Provide galvanized angle iron and bands for ductwork bracing and support.
- K. Do not suspend ductwork or any device, or allow work installed by any trade to be suspended from ductwork (for example: lighting conduit, lighting fixtures, piping, ceiling construction, etc.)
- L. Provide supplementary steel as required to support ductwork with a maximum deflection of 0.08" with the supported load acting at the mid-span of the steel.
- M. Prior to mounting or hanging of mechanical equipment and ductwork, obtain approval from the Architect for proposed method of mounting and for exact location of all mounting points. Submit weights and location of all mechanical equipment and ductwork to the Architect for approval well in advance of general construction work to allow sufficient time for any structural analysis.
- N. Replace, without any additional cost to the contract, any ductwork or components found to be noisy after installation, with said noise resulting from faulty materials or workmanship.
- O. Cap openings in ducts during progress of construction tightly.
- P. Where vermiculite, plaster, wire lath or lead wrapping is required to be applied completely about horizontal runs of ductwork (as indicated on the Drawings), provide all hangers and inserts for such ductwork of extra strength and rigidity to support same. Provide hangers for such ductwork as specified hereinafter except that hanger spacing be one-half that specified.
- Q. Provide any ductwork passing through waterproof walls or roof construction with counterflashing.
- R. Provide approved firestopping material around all ducts penetrating floors, walls, roofs, etc., in accordance with local codes, NFPA, and Architect's requirements.



3.2 RECTANGULAR SHEETMETAL DUCTWORK

- A. The ductwork on this project falls into classifications as indicated below. Each classification has positive and negative requirements as shown.

Ductwork	Pressure Classification "W.G."	Velocity Classification	Seal Class
Downstream of fan-powered terminal, pinch down VAV or PRV.	+1"	2500	A
Ductwork on the discharge of air handling units, except outside air handling units.	+2"	2500	A
Outside air and toilet exhaust ductwork on the building side of the volume damper on each floor.	+2" & -2"	2500	A
Outside air makeup and exhaust duct for smoke exhaust systems.	+2" & -2"	2500	A
Outside air handling unit discharge ductwork, risers, and ductwork to the volume damper on each floor.	+3"	4000	A
Toilet exhaust ductwork, risers, and runouts to the volume damper on each floor.	-3"	4000	A
Stair pressurization ductwork.	+3"	4000	A

- B. Comply with the pressure class, seal class and velocity class listed for the construction in each classification. Cross-break or use mechanical transverse beading on rectangular ductwork 12" and wider and install as indicated on the Drawings and as specified. Make beading at least 1/16" deep at the center of the bead and a maximum of 3/8 inch wide at the base of the bead.

- 3.3 Where tie rods are utilized, provide a fender washer and jam type lock on each side of the sheetmetal. Reinforce ductwork in accordance with SMACNA Table 1-10. Construct ductwork over 96" wide with T-24 type flanged transverse joints with bolted corners. In lieu of using tie rods, this ductwork may be constructed as follows for the size ranges listed if carefully coordinated with all physical space limitations.

Dimension of Longest Side of Duct	Supply or Exhaust	Sheetmetal Gauge	Minimum Reinforcing Size*	Maximum Reinforcing Spacing
96" - 110"	Supply	18	2"	30" CC



Dimension of Longest Side of Duct	Supply or Exhaust	Sheetmetal Gauge	Minimum Reinforcing Size*	Maximum Reinforcing Spacing
111" - 160"	Supply	16	4"	24" CC
161" - 180"	Supply	14	6"	20" CC
181" and Larger	Supply	14	8"	18" CC
* 16 gauge "Z" bar or 12 gauge angle.				

Dimension of Longest Side of Duct	Supply or Exhaust	Sheetmetal Gauge	Minimum Reinforcing Size*	Maximum Reinforcing Spacing
96" - 110"	Exhaust	16	2"	24" CC
111" - 160"	Exhaust	14	4"	20" CC
161" - 180"	Exhaust	12	6"	16" CC
181" and Larger	Exhaust	12	8"	14" CC
* 16 gauge "Z" bar or 12 gauge angle.				

- 3.4 Fasten reinforcing to ductwork on 12" centers by bolting or welding reinforcing to the ductwork.
- 3.5 Install duct connected grilles, registers and ceiling diffusers shown on the Drawings. Exact dimensions of openings must await approval of registers and diffusers. Submit exact locations for approval. Do not cut joints for the installation of outlets.
- 3.6 Where possible, fabricate all ductwork in such a manner that seams and/or joints will not be cut for the installation of grilles, registers, or ceiling outlets. If cutting of seams or joints is unavoidable, properly reinforce the cut portion to original strength.
- 3.7 For low pressure ductwork provide air extractors in branch ducts at connection to main ducts.
- 3.8 LOUVERS
- A. Provide aluminum mesh bird screen in removable U-type aluminum frame attached in place with stainless steel or cadmium plated sheetmetal screws. Make bird screen removable from the inside.
- B. Include layout, elevation, dimensions and tolerances on all shop drawings. Provide head and jamb details including blade configuration and spacings. Provide details indicating method of anchorage to openings.
- C. Submit manufacturer's "color chips" to Architect and obtain the Architect's approval before starting the painting work.
- D. Clean louvers of all dirt and foreign matter in accordance with manufacturer's recommendations. Protect louvers from work of other trades.



3.9 DUCT MOUNTED SMOKE DETECTORS

- A. Duct mounted smoke detectors are provided and installed by Contractor. Locate duct mounted smoke detectors in the ductwork in accordance with the manufacturer's recommendations, the requirements of NFPA, and the authorities having jurisdiction.

3.10 ACCESS DOORS IN SHEETMETAL

- A. Provide access doors not smaller than 18 inches by 18 inches. Ducts smaller than 18 inches are to be provided with access doors 2 inches smaller than the width by 18 inches long. Provide access to all fire dampers as required by code and local authorities.
- B. Where removable hung ceiling panels are installed below access doors, provide markers showing the access door location clearly.

3.11 PLENUMS

- A. Provide standing seams with additional right angle bend and cap with No. 18 gauge galvanized "U" cap galvanized steel plenums for in-line centrifugal and axial flow fans.
- B. Provide the number of access doors as shown on the Drawings, minimum of one (1), for each sheetmetal plenum.
- C. Provide drain pan construction for air intake and discharge plenums; apply two (2) coats of mastic sealant to all joints; pitch bottoms for effective drainage.

3.12 DUCT SEALANT

- A. Clean and dry all surfaces thoroughly prior to application.
- B. Apply with caulking gun, trowel or spatula.
- C. Join surfaces to be sealed immediately after application of sealant.
- D. Follow manufacturers instructions carefully for application, storage and cleanup.
- E. Do not use sealant which is beyond manufacturers recommended shelf life.

END OF SECTION



SECTION 23 33 13

DAMPERS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project:
 - 1. The Contract Drawings,
 - 2. The Specifications,
 - 3. The General Conditions,
 - 4. The Addendum, and
 - 5. The Contract [City of New York Standard Construction Contract].

1.2 DESCRIPTION

- A. Provide dampers in accordance with the Contract Documents.

1.3 WORK INCLUDED

- A. Fire Dampers.
- B. Combination Fire/Smoke Dampers.
- C. Smoke Dampers.
- D. Backdraft Dampers.
- E. Automatic Damper Installation.

1.4 SUBMITTALS

- A. Submit complete manufacturers data on all dampers required by this section, including sizes, location, quantity and construction details.
- B. Submit samples of dampers as requested by the Commissioner.

1.5 QUALITY ASSURANCE

- A. Fabrication testing and installation to be in compliance with U.L., NFPA and local authorities. Fire dampers to be U.L. labeled for 1½ or 3 hour rating as indicated on the Drawings. Refer to architectural drawings for fire ratings of slabs and partitions being penetrated.
- B. Comply with Sheet Metal and Air Conditioning Contractors National Association (SMACNA) Details and details as shown on the Drawings.



- C. For positive smoke control, dampers shall conform to U.L. Standard 555S.

PART 2 - PRODUCTS

2.1 FIRE DAMPERS

- A. Provide fire dampers in ducts piercing fire rated walls, and floors, as required by NFPA, local codes and local authorities having jurisdiction. All fire dampers are to comply with latest UL-555 Standard.
- B. Fire dampers designated as FD on the Drawings are 1½ hour rated; FD-3 are 3 hour rated. Dampers to be of the curtain type with frames of 18 gauge steel and blades of 21 gauge steel. All dampers shall be approved for use in dynamic systems. Dampers to be stainless steel spring loaded for closure. Provide U.L. rated 160°F fusible link. Dampers must lock in closed position.
- C. Fire dampers designated as FD-H on the Drawings are operated through an integrally mounted heat sensor in lieu of a fusible link. These dampers will be wired for 24 volt operation.
- D. Acceptable Manufacturers
1. Ruskin
 2. Imperial
 3. Prefco

2.2 COMBINATION FIRE/SMOKE DAMPERS

- A. Provide combination fire/smoke dampers as shown on the Drawings in ducts piercing fire rated walls and floors, and where shown on the Drawings.
- B. Provide normally closed dampers that are fusible link operated.
- C. Dampers to be of opposed multi-blade construction and classified in accordance with U.L. Standard 555 and 555S in all respects including size limitations. Use Class 1 dampers, with maximum leakage of 4 cfm/sq.ft., in ducts with velocities at or over 2000 FPM, and Class 2 dampers, with maximum leakage of 10 cfm/sq.ft., in ducts with velocities under 2000 FPM, unless noted otherwise on the Drawings. Minimum size Class 1 damper, 12 x 12. Minimum size Class 2 damper, 9 x 9.
- D. Damper construction to be minimum 16 gauge galvanized steel frame and blades. Side seal to be Type 304 flexible stainless steel with bronze or stainless steel shaft bearings in end plate. Damper linkage to be outside air stream.
- E. Provide dampers designated as "FSD-FL" with a fusible link which will close and lock damper on increased air temperature over 165°F.
- F. Provide dampers designated as "FSD" and "FSD-3" with an electrically resettable link which will close and lock damper on increased air temperature over 165°F. The



link to be manually resettable at the damper linkage without need of link replacement. Provide damper position indicator external of damper.

- G. Provide dampers designated as "FSD-HS" and "FSD-HS3" as normally closed and provided with a means of automatically opening dampers remotely from the Fire Command Center when the air temperature is below the damper linkage degradation temperature of 250°F 350°F. This will be accomplished by a thermal link which will disengage the damper actuator at or above the degradation temperature of the damper. The release of the link will cause the damper to close and lock until the link has cooled to below the degradation temperature. Activation of the actuator will re-engage the damper linkage in this situation.
- H. Provide dampers designated as "FSD-RA" as normally open and provided with a means of maintaining damper closed during "normal" situations. Provide means to automatically open dampers remotely from the fire command center, or as described in the controls specification.
- I. Acceptable Manufacturers
 - 1. Ruskin
 - a. Model FSD35 (Class 2)
 - b. Model FSD60 (Class 1)
 - c. Model FSD31 (3 hour)
 - 2. Imperial
 - a. Model 770 (FSD Class 2 only)
 - b. Model 710 (FSD-HS or FSD Class 2 only)
 - 3. Nailor-Hart
 - 4. Air Balance
 - 5. Arlan

2.3 SMOKE DAMPERS

- A. Provide smoke dampers as shown on Drawings designated as "SD".
- B. Dampers are to be electrically operated. Provide factory-mount UL listed actuators, relays and damper position switches provided by Automatic Temperature Controls Contractor.
- C. Provide dampers of opposed multi-blade construction Class 2, with maximum leakage of 10 cfm/sq.ft. at 1" w.g. when in the closed position for ducts with velocities of 2000 FPM or less, and Class 1 with maximum leakage of 4 cfm/sq.ft. at 1" w.g. for ducts with velocities over 2000 FPM. Minimum size Class 1 damper, 12 x 12. Minimum size Class 2 damper, 9 x 9.



- D. Damper construction to be minimum 16 gauge galvanized steel frame and blades. Side seal to be Type 304 flexible stainless steel with bronze or stainless steel shaft bearings in end plate. Damper linkage to be outside air stream.
- E. Provide dampers with means of remote opening from the Fire Command Station and with position indicator switches to enable remote status of open or closed positions.
- F. Acceptable Manufacturers
 - 1. Ruskin Model SD60 (Class 1) Model SD36 (Class 2)
 - 2. Imperial Model 620 (Class 2 only)
 - 3. Nailor-Hart
 - 4. Air Balance
 - 5. Arlan
 - 6. Prefco

2.4 BACKDRAFT DAMPERS

- A. Provide balanced, tight closure, 1/8-inch thick aluminum backdraft dampers of the self-operating type where indicated on the Drawings. Fabricate damper frames from extruded aluminum with mitered corners. Blades to be extruded aluminum with extruded vinyl edge seals. Blade/frame assembly to be weather resistant with blades overlapping the frame. Damper bearings to be bronze oilite nylon or cycloox. Provide bird screen over opening.
- B. Acceptable Manufacturers
 - 1. Ruskin
 - 2. Prefco

2.5 AUTOMATIC DAMPER

- A. Install all automatic dampers being supplied by the Contractor.

PART 3 - EXECUTION

3.1 FIRE DAMPERS AND FIRE/SMOKE DAMPERS

- A. Provide conveniently located access doors, of ample size for resetting the dampers. Duct mounted grilles, registers or diffusers can be used for access as long as such access is readily available as determined by the Commissioner.
- B. Galvanize or paint with one coat of rust inhibiting paint the entire fire damper assembly before installation.
- C. In the open position with damper shutter stored, provide 95 percent free area.



- D. All actuators of automatic fire dampers (FD-H) and combination fire/smoke dampers (FSD), except for those designated as FSD-HS, are connected by the Temperature Controls Contractor to the controlling device. The Temperature Controls Contractor will provide all wiring, conduit pneumatic tubing, circuit protective devices, etc., as necessary to meet this requirement.
- E. Fire/smoke dampers designated as FSD-HS will be installed in ducts and penetrations of rated walls and floors which are part of a smoke control and/or evacuation system. These dampers may be controlled during normal operation by the A.T.C. BMS system; however, during a smoke or fire emergency, these dampers will be openable from the Fire Command Center.
- F. Design dampers incorporating multiple sections in such a way that the actuators are readily accessible. Coordinate locations so as not to be necessary to remove damper sections, structural, or other fixtures, to facilitate removal of damper motors. Provide access doors where necessary to meet this requirement. In particular, ensure that where in-air stream actuators are provided, they are readily accessible.
- G. Do not install Class 1 fire/smoke or smoke dampers in ducts with any dimension smaller than 12". Expand duct to 12" prior to installation. For Class 2 dampers, the minimum dimension is 9".

3.2 ALL DAMPERS

- A. Mount dampers plumb and level. Provide additional duct bracing and supports to properly support dampers.
- B. Provide duct access doors for internal access to all fire dampers, combination fire/smoke dampers, smoke dampers, automatic dampers, and backdraft dampers.
- C. Damper construction to be similar to that of the ductwork to which it connects (i.e., galvanized to galvanized, stainless steel to stainless steel).
- D. Provide on all dampers, extractors, etc. mounted on externally insulated ductwork, 16 gauge elevated platform at least 1/8" higher than the thickness of the insulation. Provide damper shaft with Ventlok No. 607 bearing mounted on ductwork within elevated platform.

END OF SECTION



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PIPING AND ACCESSORIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project:
 - 1. The Contract Drawings,
 - 2. The Specifications,
 - 3. The General Conditions,
 - 4. The Addendum, and
 - 5. The Contract [City of New York Standard Construction Contract].

1.2 DESCRIPTION

- A. Provide piping and accessories in accordance with the Contract Documents.

1.3 WORK INCLUDED

- A. Pipe.
- B. Fittings.
- C. Unions and Couplings.
- D. Escutcheons.
- E. Sleeves.
- F. Welding Procedures.

1.4 SUBMITTALS

- A. Submit manufacturer's data for hangers and fittings.
- B. Submit dimensioned drawings to the Engineer for approval showing pipe penetrations through core walls, slabs and other structural elements, anchor and guide locations, etc.
- C. Submit a schedule for pipe fittings.
- D. Submit a schedule for pipe sleeves.
- E. Submit a set of welding procedures for each pipe service.



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- F. Submit a list of pipe welders proposed for all shop and field welding.
- G. Submit mill certificates for piping and fittings.
- H. Submit an overall piping schematic drawing (similar to a riser or isometric diagram) showing entire installed system.
- I. Submit plan drawings showing piping point loads to structure and supplementary steel layouts for all systems.
- J. Submit a line-by-line statement of compliance or non-compliance with this specification section.

1.5 QUALITY ASSURANCE

- A. All piping work to conform to the latest edition of the appropriate ANSI Code for Pressure Piping and Power Piping, including latest amendments.
- B. Employ only skilled welders, each holding a currently active certificate, dated within 12 months, from a recognized testing laboratory, indicating satisfactory welding test results per the American Welding Association or ASME Boiler and Unfired Pressure Vessel Code, Section IX, Welding Qualifications. Retest is required if welder has not performed welding for a period of 90 days. Maintain copies of certificates at the job site. Non-certified welders shall not be employed.
- C. The piping shown on the Drawings is indicated schematically to show the general distribution and system configuration. Coordinate with the work of other Sections and Divisions of the Specifications so as to provide a complete system, including approved rerouting, horizontal and vertical offsets, etc., to make the piping distribution fit within the confines of shafts, ceiling spaces, chases, equipment rooms, etc., all to the satisfaction of, or as directed by, the Architect.
- D. For high pressure steam piping, test steel pipe in accordance with the latest edition of the ASME standard for welded steel pipe under B31.1.
- E. Perform radiographic testing on high pressure steam piping (151 psi to 300 psi) according to the ASME Power Piping Standards.
- F. All piping shall be sourced from the United States (domestic supply).

PART 2 - PRODUCTS

2.1 PIPING

- A. Piping, fittings and accessories to be suitable for the pressure and temperatures of the service. Ascertain system working pressure and provide piping accordingly, based on the systems to be tested at 150 percent of maximum system working pressure.
- B. Galvanizing: Hot process inside and outside of pipe with zinc coating, minimum 3 oz. per sq. ft.



- C. For butt-welded piping, bevel ends as specified under "Welding of Piping". For screwed joint connections, ream cut ends of pipe to full diameter. Socket welded piping shall only be permitted for 1-1/2 inches and smaller. Ends shall be without burrs or other inward projections at the cut ends.
- D. All steel pipe is ERW or seamless type ASTM A-53, Grade B, unless noted otherwise. Dimensions and weights of steel pipe to conform to ANSI Standard B16.10.
- E. High pressure steam piping installation shall conform to the latest edition of ANSI B31.1 Code for Pressure and Power Piping, including latest amendment. All other piping shall conform to the latest edition of ANSI B31.9 Code for pressure and power piping, including latest amendments.
- F. For welded pipe, fittings shall be welding fittings and all pipe flanges shall be welding neck type.
- G. Copper pipe to be hard drawn conforming to ASTM B-88.
- H. Refrigerant tubing shall be cleaned and dehydrated at the factory and shipped sealed with a holding charge of nitrogen.

2.2 PIPE FITTINGS

- A. Comply with latest edition of ANSI B16.3, B16.5, B16.9 and B16.11 standards.
- B. Provide steel elbows of long radius pattern.
- C. Fittings to be of the same schedule (weight) as the pipe to which it will be welded. Submit cut samples for approval if directed. Provide fittings which maintain full wall thickness throughout, ample radius and fillets, and proper bevels or shoulders at ends.
- D. Provide carbon steel welding flanges at all flanged valves and equipment, and as required for union connections. Flanges to be either slip-on type, bored to match diameter of pipe and front and back welded thereto, or welding neck pattern. Use flanges with a working pressure equal to 150 psi, or a minimum of 150 percent of the maximum system working pressure. Flanges for high pressure steam service to be 300 psi rating. High pressure steam service as relates to piping, fittings, valves and accessories is defined under these Contract Documents as steam at an operating pressure of 15 psig or higher.
- E. Provide cadmium plated or galvanized machine bolts with heavy pattern semi-finished hexagonal steel nuts to join flanges. Use studs threaded both ends where necessary to facilitate removal of valves or disassemble flanged fittings. All bolts used shall be "B-7" bolts plus studs plus threaded rods, using "2H" nuts.
- F. Provide 1/16 inch thick, non-asbestos gaskets between flanges made of compressed sheet on cold water piping only. Steam piping shall utilize "flexitalic" gaskets only.
- G. Use Teflon tape on male threads of screwed pipe (female).



- H. Screwed fittings to be inside threaded with threads cut clean and true.
- I. Copper fittings to be brazed fittings conforming to ASTM B16.5, B16.18 and B16.22.
- J. Branch piping connections for all steam service piping, feed water piping and condensate piping shall utilize tee fittings, reduced elbows, or shaped nipples only. No Weld-O-Lets, Thread-O-Lets or "stab-in" connections are permitted.
- K. Branch piping connections for other water service piping (chilled water, condenser water, hot water) shall utilize fittings, Weld-O-Lets, Thread-O-Lets, or shaped nipples only. No "Stab-in" connections are permitted.
- L. Provide reducing/increasing long radius elbows at pump inlet and outlet connections.

2.3 UNIONS AND COUPLINGS

- A. Provide unions where required for the removal of equipment. For piping 3" and smaller, use ground joint type of malleable iron with brass seats for iron pipe, and made of brass for brass pipe and copper tubing. For piping 4" and larger use 150 psi forged steel slip-on flanges for ferrous piping and bronze flanges for copper piping.
- B. Insulating Coupling Type: At each joint between steel or zinc (galvanized) and copper; up to 2" size, Capitol Series CS or Epco "Dielectric Union"; larger sizes, Capitol Series FG, flange type with insulator spacers and washers.

2.4 HIGH PRESSURE STEAM (151 PSI to 300 PSI) HIGH PRESSURE CONDENSATE PIPING, FEED WATER PIPING AND FITTING SCHEDULE

- A. Piping:
 - 1. 12" and larger will be extra heavy weight A 106 Gr B Seamless Pipe Black Steel.
 - 2. 3" through 10" will be extra heavy weight A 106 Gr B Seamless Pipe Black Steel.
 - 3. 2 1/2" and smaller will be schedule 80 A 106 Gr B Seamless Pipe Black Steel.
- B. Fittings:
 - 1. 3" and larger will be weld fittings same schedule weight as the pipe to which it will be welded. ANSI B 16.9 ASTM a-234.
 - 2. 2 1/2" and smaller can be socket welded or threaded. Socket weld fittings will be A105, 3000# forged steel. Threaded fittings will be 3000# steel.
- C. Flanges:
 - 1. 1 1/2" and larger will be 300# Weld Neck Flanges. ANSI B 16.5 ASTM 105.



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2. 1 1/4" and smaller can be socket weld or threaded 300# Flanges. ANSI B 16.5 ASTM 105.

D. Joints:

1. 2 1/2" and larger will be welded.
2. 2" and smaller can be welded, Socket Weld or Threaded.

E. Branch Connections:

1. Branch connections to steel pipe will be made with tee fittings only.

F. Bolts and Nuts:

1. ASTM A 307 Grade "B7" bolts and Grade '2H' Nuts.

G. Gaskets:

1. Flexitallic style CG or equal.

2.5 MEDIUM PRESSURE STEAM (31 PSI to 150 PSI), MEDIUM PRESSURE CONDENSATE PIPING AND FITTING SCHEDULE

A. Piping:

1. 12" and larger will be standard weight A 106 Gr B Seamless Pipe Black Steel.
2. 3" through 10" will be schedule 40 A 106 Gr B Seamless Pipe Black Steel.
3. 2 1/2" and smaller will be schedule 80 A 106 Gr B Seamless Pipe Black Steel.

B. Fittings:

1. 3" and larger will be weld fittings same schedule weight as the pipe to which it will be welded.
2. 2 1/2" and smaller can be socket welded or threaded. Socket weld fittings will be A105, 3000# forged steel. Threaded fittings will be 3000# steel.

C. Flanges:

1. Above 90 PSI
 - a. 2 1/2" and larger will be 300 Weld Neck Flanges. ANSI B 16.5 ASTM 105
2. Below 90 PSI
 - a. 2 1/2" and larger will be 150 Weld Neck Flanges. ANSI B 16.5 ASTM 105



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3. All Services

- a. 2" and smaller can be socket weld, slip on, or threaded 3000# Flanges. ANSI B 16.5 ASTM 105

D. Joints:

1. 2 ½" and larger will be welded.
2. 2" and smaller can be welded or threaded.

E. Branch Connections:

1. Branch connections to steel pipe will be made with tees fittings only.

F. Bolts and Nuts:

1. ASTM A 307 Grade "B7" bolts and Grade "2H" nuts.

G. Gaskets:

1. Flexitallic Style Cg or equal.

2.6 LOW PRESSURE STEAM (30# AND BELOW) LOW PRESSURE CONDENSATE (30# AND BELOW) PIPING AND FITTING SCHEDULE

A. Piping:

1. 12" and larger will be standard weight A 53 Gr B Seamless Pipe Black Steel.
2. 2 ½" through 10" will be Schedule 40 A 53 Gr B Seamless Pipe Black Steel.
3. 2" and smaller steam piping will be Schedule 40 A 106 Gr B Seamless Pipe Black Steel.
4. All condensate piping will be Schedule 80 A106 GRB Seamless pipe black steel.

B. Fittings:

1. 2 ½" and larger will be weld fittings same schedule weight as the pipe to which it will be welded. ANSI B 16.9 ASTM A-234
2. 2" and smaller can be socket welded or threaded. Socket weld fittings will be A 105 3000# forged steel. Threaded fittings will be 2000# Steel.

C. Flanges:

1. 2 ½" and larger will be 150# Weld Neck or Slip on Flanges. ANSI B 16.5 ASTM 105



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D. Joints:

1. 2 1/2" and larger will be welded.
2. 2" and smaller can be welded or threaded.

E. Branch Connections:

1. Where applicable branch connections to steel pipe will be made with tees fittings only.

F. Bolts and Nuts:

1. ASTM A307 Grade B7 bolts and Grade 2H nuts.

G. Gaskets:

1. Flexitallic style "CG" or Equal.

2.7 REFRIGERANT PUMP DOWN PIPING AND FITTING SCHEDULE

A. Piping:

1. DHP Copper Tubing, ACR Cleaned and Capped.

B. Fittings:

1. ANSI B16.22 Wrought Copper, ACR Cleaned and Capped.

C. Flanges:

1. 125# Sweat Bronze Companion Flange ASTM B584 or Unions.

D. Joints:

1. Brazed with bag silver filler metal.

E. Branch Connections:

1. Will be made with Tee Fittings.

F. Bolts and Nuts:

1. ASTM A307 Grade B7 Bolts, Grade 2H Nuts

G. Gaskets:

1. Garlock 3000 or equal
2. Isolation gasket sets where applicable.

2.8 VENTS AND EQUIPMENT DRAINS PIPING AND FITTING SCHEDULE



A. Piping:

1. 12" and larger will be Standard Weight A53B ERW Black Steel Pipe.
2. 10" and smaller will be Schedule 40 A53B ERW Black Steel Pipe.
3. 2" and smaller can be L Copper Tubing Hard Drawn, Soft Annealed or A53B ERW Schedule 40 T&C Black Steel Pipe.

B. Fittings:

1. 2 ½" and larger will be Weld Fittings the same schedule as the pipe to which it will be welded. ANSI B 16.9 ASTM A234.
2. 2" and smaller will be Threaded Black Cast Iron Fittings 125# or ANSI B16.29 Wrought Copper Fittings (Contractors Option to install larger sizes.)

C. Flanges:

1. 2 ½" and larger will be 150# Weld Neck or Slip On Flanges ANSI B16.5, ASTM 105
2. 2" and Down will be 125# C1 Screwed Flanges.
3. Copper sweat will be 125# Sweat Bronze Companion Flange ASTM B584.

D. Joints:

1. 2 ½" and larger will be welded.
2. Copper systems Soldered with 95/5 SN/SB.
3. Threaded 2" and down.
4. Di-Electric Fittings or Isolation gasket sets will be used between Copper/Steel services.

E. Branch Connections:

1. 2 ½" and larger will use fittings or fabricated laterals.
2. Copper system will be made with Tee Fittings.

F. Bolts and Nuts:

1. ASTM A307 Grade B7 Bolts and Grade 2H Nuts
2. Exterior Cooling Tower will be hot dipped galvanized, all other exterior locations can be plated.

G. Gaskets:



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1. Garlock 3000 or Equal
2. Isolation gasket sets where applicable.

2.9 ESCUTCHEONS

- A. Cast iron or cast brass, deep type, to cover sleeve hubs or fitting projections. Provide escutcheons for exposed piping through floors, ceilings, walls and partitions in finished areas, and piping through all fire rated separations. Attach escutcheon to building material, not to pipe.

2.10 SLEEVES

- A. Construct sleeves for pipes passing through partitions, hung or furred ceilings, etc., of not lighter than 18 gauge galvanized steel.
- B. Provide standard weight galvanized steel pipe sleeves at all penetrations of foundation walls, block walls, reinforced concrete walls, and all floor and roof slab penetrations.
- C. Provide 25 gauge waterproof galvanized sheetmetal counter-flashing at all pipe roof penetrations.

2.11 ACCEPTABLE MANUFACTURERS

- A. Pipe
 1. U.S. Steel "National"
 2. Ohio Pipe
 3. LTV-E
 4. Van Lewen
 5. Approved Equal.
- B. Welding Fittings
 1. Weldbend
 2. Tubco
 3. Cajon
 4. Naylor
 5. Ladish
 6. Van Lewen
 7. Approved Equal.



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C. Copper Pipe and Fittings

1. Mueller Brass
2. Nibco
3. Reading Tube
4. Approved Equal.

PART 3 - EXECUTION

3.1 **GENERAL**

A. Preparation

1. Ream and de-burr pipes and tubes.
2. Clean of scale and dirt, inside and outside, before assembly.
3. Remove welding slag or other foreign material from piping.

B. Installation

1. General:
 - a. The drawings indicate generally the size and location of piping and while sizes must not be decreased, the Contractor may change locations of pipes in order to accommodate conditions at the job.
 - b. Closely plan and coordinate concealed piping and ductwork above suspended ceilings to avoid interferences, and install to maintain suspended ceiling heights shown on architectural drawings.
 - c. Install exposed work in a neat, workmanlike manner; parallel to the closest wall with maximum headroom. Avoid light fixtures.
 - d. Properly grade piping to secure easy circulation and prevent noise and water hammer. Pitch horizontal pumped water piping 1 inch in 60 feet upward in direction of flow. Pitch steam and condensate piping 1 inch in 40 feet downward in direction of flow. Pitch gravity water piping one foot in 100 feet downward in direction of flow.
 - e. Install (at traps, instruments, etc., and wherever else directed) approved unions, to permit easy connection and disconnection.
 - f. Make riser branches and other offsets with 4-elbow swings including copper risers and branches.
 - g. To meet job conditions offset water supply and return mains up and down. Provide drain cocks with hose connection and chained cap (minimum 3/4 inch) at low points and vent traps at high points.



- h. After systems are in operation, if coils do not circulate quickly and noiselessly (due to trapped or airbound connections), make proper alterations in these defective connections including altering finished construction and refinishing without additional cost.
- i. Pipe Nipples: Pipe 3 inch in length and less is considered a nipple. Nipples to be of extra heavy construction. Do not use close nipples.
- j. Do not use short lengths or nipples at locations where a full length of pipe will fit.
- k. Make piping connections to coils and equipment with offsets provided with screwed or flanged unions so arranged that the equipment can be serviced or removed without dismantling the piping. Do not screw unions directly to coil header piping connections.
- l. Cut screw threads clean and true. Do not use bushings. Make reductions with eccentric reducers or eccentric fittings to permit draining unless otherwise indicated. Ream out pipe 2 inch and less after cutting to remove burrs.
- m. Make flanged connections with flange faces true and perpendicular to the center line of the pipe to which the flanges are attached.
- n. Allow space for pipe insulation.
- o. Provide dielectric couplings at all junctions of copper and steel or galvanized piping.
- p. Provide for expansion and contraction of piping systems.
- q. Use main sized saddle weld-o-lets or thread-o-lets, type branch connections for directly connecting branch lines to mains in steel piping if main is at least one pipe size larger than the branch for up to 6 inch mains and if main is at least two pipe sizes larger than branch for 8 inch and larger mains. Do not project branch pipes inside the main pipe. Use of welding tees are permitted for all sizes.
- r. Cap all openings in pipes during progress of the work.
- s. Do not connect bottom of pipe risers until riser is complete. Rod or tap to clear loose material before making bottom connection.
- t. Correct leaks in piping immediately using new materials. Leak-sealing compounds or peening is not permitted.

2. Supports:



- a. Support or suspend piping properly on stands, clamps, hangers, etc., of approved design and make. Design supports to permit free expansion and contraction while minimizing vibration. Anchor pipes where shown or required by means of steel clamps, or other approved means, securely fastened to the pipe and the building construction. Follow MSS standards for supports of piping.
 - b. Provide structural pipe supports including supplemental steel channels, angles, columns, etc., necessary to complete the installation. The provision of structural supports over and above that required for the building structure is the responsibility of this Section.
 - c. Prior to installation of hanger rods and other pipe supports, obtain approval from the Architect/Engineer for proposed method of hanging and for exact location of all mounting points. Submit weights and location of all piping to the Architect/Engineer for approval well in advance of general construction work to allow sufficient time for structural redesign to accommodate the installation.
 - d. Place piping in proper alignment and position prior to connection to anchors, expansion loops, joints and equipment. Furnish jacking devices, temporary steel structural members and assembled structures as necessary. Remove temporary equipment and structures at the completion of the work.
 - e. Reinforce piping at anchor points.
 - f. For life safety systems only seismic supports are required as indicated in the BOCA Basic Building Code. Contractor shall provide signed and sealed calculations and submittals by a licensed professional engineer for proper seismically designed supports.
3. Sleeves:
- a. Provide sleeves for all pipes passing through floors, rated partitions and walls of sufficient diameter to accommodate pipe covering where such is required. Set sleeves for concrete floors, walls, and other masonry work in place before the floors or walls are poured or built. Locate sleeves secure in place so that space all around the pipes, after the pipes are installed in place is about equal. Anchor sleeves by use of anchor flanges embedded in concrete or at each end of sleeve. Properly firestop around sleeves after wall is constructed.
 - b. Provide sleeves for all pipes passing through non-rated partitions or ceilings. Size sleeves to accommodate pipe covering where applicable. Sleeve seam to be drive slip. Sleeve to be flanged 1" at each end to lock sleeve into penetration.
 - c. For sleeves at penetrations of the metal deck, attach to the deck



prior to the pouring of the deck concrete. Set sleeves in such a manner so that no concrete fills their interior during the concrete pouring operations.

- d. Caulk floor sleeves for exposed pipes watertight and project sleeve approximately 2" above the finished floor. Finish sleeves flush with the bottom of slab and also with the finished faces of wall.
 - e. Provide sleeves with an inside diameter at least $\frac{1}{2}$ " greater than outside of pipe served, including pipe insulation which must be continuous through sleeve, except as detailed on the Drawings.
 - f. Where piping penetrates non-rated walls, partitions, etc., pack space between piping and sleeve with mineral wool. At penetrations through foundation walls, rated walls, and floor slabs provide firestop material as specified and shown on the Drawings.
 - g. Do not support pipes by resting clamps on sleeves. Clamps must extend beyond sleeve and be supported outboard of sleeve in an approved manner. In no case shall sleeves be cut or slotted to accommodate pipe clamps.
 - h. Where space for future pipes and conduits is required, provide sleeves and fill with lightweight concrete.
 - i. Sleeves penetrating floor and roof slabs shall extend at least 2" above slab.
 - j. Cover all pipe/sleeve/firestopping gaps using escutcheons.
4. Drain Installation:
- a. Coils and vessels which contain water to have connections suitably located, and valved outlets, to permit individual venting and draining.
 - b. Provide valved drains with hose bibb at low points of piping systems and at the bottom of each riser.
 - c. Provide cooling coil condensate drains, fan drains, and all unit casing drains with 2-inch minimum trap seal, unless otherwise noted, to spill over floor drains.
 - d. Provide 1-inch minimum drain lines in sheet metal intake and discharge plenums not indicated to have floor drains. Pipe drains to nearest approved indirect waste.
5. Except as noted, make soldered joints with 95% tin and 5% antimony solder, having a melting point of not less than 460°F. Thoroughly clean solder joints before the application of the solder. Cut pipe square with



- burrs removed and apply flux before soldering.
6. Make brazed joints using brazing alloys with a melting point at or above 1,000°F.
 7. Refrigerant Systems:
 - a. Back purge refrigerant tubing with nitrogen during brazing operations.
 - b. Grade all refrigerant lines for proper oil return to compressor.
 8. Install automatic valves, insertion pipe wells and energy meters in piping systems. Valves, wells and meters will be furnished under the work of other Sections or Divisions of the Specifications.
 9. Steam Systems:
 - a. Install steam pressure reducing valves and metering stations according to ANSI B31.1 and B31.9 standards.
 - b. Pipe flashed high and medium pressure steam to flash tank.
 - c. Install automatic control valves for the domestic hot water heaters.
 - d. Provide drip trap assembly at low points and points where condensate may back up in front of control valves. Run condensate lines from traps to nearest condensate receiver. Where condensate lines form a trap, provide vent loop over the trapped section.
 - e. Vent steam relief piping to atmosphere at locations approved by the Architect. Refer to exhaust head detail. Steam vents from flash tanks and condensate receivers shall be vented independently of pressure relief vents.

3.2 WELDING OF PIPING

- A. Where shown on drawings, specified or directed, use welded joints, outlets and flanges. Welded joints may also be provided elsewhere, at Subcontractor's option, except at points where it may be explicitly specified or directed to leave flanged joints.
- B. Whenever welded piping connects to equipment valves or other units needing maintenance, servicing, or possible removal, flange the connecting joints. Match the pressure rating of the pipe flanges with the pressure rating of the flanges on the equipment to which the piping connects. Provide flanged pipe sections to permit removal of equipment components.
- C. Welding Process: Sizes 4 inch and smaller, use either gas welding (oxyacetylene process) or metallic arc process; sizes above 4 inch, use metallic arc process.



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- D. Preparation of Pipe Ends: For thicknesses up to 3/16 inch, ends shall be finished square or with 37½ degree bevel with a 1/16 inch band; for thicknesses 3/16 inch to 3/4 inch inclusive, ends shall be machined or ground to have a 37½ degree bevel with a 1/16 inch band per latest edition of ASTM B31.1.

END OF SECTION



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SECTION 23 62 10

AIR COOLED AIR CONDITIONING UNITS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project:
1. The Contract Drawings,
 2. The Specifications,
 3. The General Conditions,
 4. The Addendum, and
 5. The Contract [City of New York Standard Construction Contract].

1.2 DESCRIPTION

- A. Provide air cooled air conditioning units in accordance with the Contract Documents.

1.3 WORK INCLUDED

- A. Split System Air Cooled A/C Unit.
- B. Air Cooled Condensing Units.

1.4 SUBMITTALS

- A. Shop Drawings
1. Submit dimensioned drawings with operating weights, piping connections, wiring diagrams, and control interface diagrams.
 2. Submit wiring diagrams for all controls, including panel layout and remote devices.
- B. Product Data: Manufacturer's latest listed data for materials, equipment and installation.
- C. Test Reports
1. Certified sound power levels.
 2. Certification of all factory tests as required herein.
 3. Statement of compliance with all required authorities.



D. Submit sound power levels and rating data for all units. Noise level from the units are not to exceed NC-38 beyond 10 feet from fan room.

E. MEA or BS&A number.

1.5 QUALITY ASSURANCE

A. Each unit, including factory-installed options, is to be U.L. listed, performance tested and rated in compliance with ARI 210 and ARI 360, Commercial and Industrial Unitary Air Conditioning Equipment.

B. Design unit to conform to ANSI-B9.1 and UL 465.

C. Performance test all units at the factory prior to shipment.

D. Manufacturer of the unit is responsible for the performance of units, including static pressure and sound attenuation effects of the discharge plenum arrangement.

PART 2 - PRODUCTS

2.1 SPLIT SYSTEM AIR COOLED UNITS

A. General

1. Units to be completely packaged, including filters, evaporator coils, internal vibration isolation and fan section. Units to require only connection of three phase power, refrigerant piping, remote sensors, control wiring and duct connections prior to operating units. Units to be mounted on 1" cork and neoprene pads, to be provided by the unit manufacturer.
2. Provide units pre-piped, pre-wired, factory assembled and factory tested, with all controls pretested prior to shipping.
3. Provide a terminal strip with each electrical component individually and separately wired to strip.

B. Cabinet, Casing and Frame

1. Unit framework to be formed of structural steel members of 12 to 14 gauge mild steel. After assembly paint the framework for maximum protection against rust. Exterior panels to be fabricated of 18 gauge galvanized steel finished with a baked acrylic enamel over an epoxy primer. Provide neoprene gasketing between panels and frame members; panels to be attached to the frame with quick release latches (no sheetmetal screws). Insulate sections including compressor compartment with 1" thick, 3-lb./cu. ft. density fiberglass having an R value of 4.16.
2. Arrange units for full front, side and rear service access to all mechanical, electrical and refrigeration controls, adjustment of expansion valves, check out of compressors, adjustment of head pressure controls, check out of electrical control panel, without disrupting or interfering with air flow.



C. Supply Fan and Motor

1. Provide single width, forward curved supply fans secured to a machined, ground and polished solid steel shaft. Coat shaft with a rust inhibitor and support by two outboard bearings selected for a minimum 200,000 hours average life. Provide drives with variable pitch sheaves with multiple V-belts sized for 150% of nominal motor horsepower. Mount supply fan motor on a sliding base. Mount fan and motor assembly on a heavy duty steel frame supported by springs designed for 90-99% isolation efficiency.
2. Provide three-phase NEMA design 'B', 40°C continuously rated fan motor with energy-saving design, .85 power factor, NEMA 'T' frame, open drip-proof, operating at 1750 rpm and supplied with grease-lubricated ball bearings.

D. Direct Expansion Coil

1. Provide direct expansion coil with ½" OD seamless copper tubes expanded into aluminum fins, not less than 3 rows deep or more than 12 fins per inch. Provide evaporator coil with a distributor with side port for hot gas bypass and thermostatic expansion valve with adjustable superheat and external equalizer. Test coil at 300 PSIG air pressure under water, completely dehydrate and pressure test with refrigerant.
2. Provide coils with heavy gauge, insulated, galvanized steel drain pans complete with mastic coating for corrosion protection.

E. Filters

1. Provide filters having a 40% ASHRAE dust spot efficiency, U.L. Class I pleated media type 2-inch deep.

2.2 AIR COOLED CONDENSING UNITS

A. General

1. Provide units pre-piped and pre-wired, factory assembled and factory tested, with all controls pre-tested prior to shipping.
2. Assemble all condensing unit components on a common base in a weatherproof housing. Provide hermetic compressors designed for use with Refrigerant R-410A, condenser coil, condenser fans and motors, refrigerant reservoir, charging valve, all controls and holding charge of R-410A.
3. Provide a terminal strip with each electrical component individually and separately wired to strip.

B. Condenser Coil

1. Construct condenser coil of aluminum plate fins, mechanically bonded to seamless copper tubes. Circuit coil for sub-cooling. Test coils to 425 psi.



C. Condenser Fans and Motors

1. Furnish fans arranged for vertical horizontal discharge. Provide condenser fan motors of the permanently lubricated type, resiliently mounted. Provide a safety guard for each fan. Include controls for cycling fans for intermediate season operation and low ambient control. Balance each fan statically and dynamically.

D. Compressor(s)

1. Furnish compressors of serviceable hermetic design with external spring isolators and an automatically reversible oil pump.
2. Provide hermetically sealed compressor with overloads and inherent winding thermostat protection for the compressor motor.
3. Provide crankcase heater.

E. Controls

1. Locate factory wired controls in a separate enclosure. Provide high- and low-pressure switches and compressor overload devices. Incorporate a positive acting timer to prevent short cycling of compressor if power is interrupted. Timer to prevent compressor from restarting for approximately 5 minutes after shutdown.

F. Casing

1. Make unit casing fully weatherproof for outdoor installation. Construct casing of galvalume steel, zinc phosphatized and finished with baked enamel.
2. Provide openings for power and refrigerant connections. Make panels removable for servicing. Provide heavy duty coil guards, unit mounting rails and drain holes.

2.3 ACCEPTABLE MANUFACTURERS

- A. Carrier
- B. Trane
- C. Mitsubishi Electric
- D. Approved Equal.



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PART 3 - EXECUTION

3.1 GENERAL

- A. Provide refrigerant piping and accessories to connect condensing units condensers to air conditioning units according to manufacturer's instructions.

3.2 STARTUP AND TESTING

- A. Manufacturer's service technician to check alignment of bearings, drives and motors after installation to ensure that no misalignment exists, or make any necessary alignment adjustments prior to startup.
- B. The manufacturer shall furnish a start up check list to the City of New York at least two months prior to start up. The list must be explicit as to the various items to be checked prior to start up.
- C. Before units are started up, manufacturer to pump new grease into bearing housings to force out old grease and provide adequate lubrication.
- D. Before acceptance of the equipment by the City of New York, conduct all tests as required to demonstrate that the equipment operates mechanically, electrically and acoustically as specified.
- E. Conduct a satisfactory performance test in the presence of the City of New York. Any units found to vibrate beyond acceptable levels must be rebalanced in the field at the Contractor's expense.

END OF SECTION



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SECTION 23 73 05

FANS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project:
 - 1. The Contract Drawings,
 - 2. The Specifications,
 - 3. The General Conditions,
 - 4. The Addendum, and
 - 5. The Contract [City of New York Standard Construction Contract].

1.2 DESCRIPTION

- A. Provide centrifugal and axial fans in accordance with the Contract Documents.

1.3 WORK INCLUDED

- A. Axial Fans
 - 1. Propeller

1.4 SUBMITTALS

- A. Submit manufacturer's latest published data for dimensions, materials, accessories and installation details.
- B. Submit full technical rating data based on tests in accordance with current AMCA standards and in an AMCA approved laboratory. Include manufacturer's certified fan performance curves, and certified sound power ratings. Correct all ratings and curves for altitude and temperature where applicable.

1.5 QUALITY ASSURANCE

- A. Construct all fans, except vaneaxial adjustable blade, to comply with the requirements of the latest editions of the Air Moving and Conditioning Association (AMCA) Standards and Bulletins. Certify these fans by AMCA for performance ratings and provide the AMCA Performance and Construction Seal.
- B. Install fans, with their accessories, to comply with state and local Codes and with the recommendations of the National Fire Protection Association (NFPA).

PART 2 - PRODUCTS

2.1 GENERAL - ALL FANS

- A. Unless noted otherwise, provide discharge direction and drive arrangement to suit space conditions and conform as closely as possible to the layouts shown on the Drawings.
- B. Provide fans that are quiet operating and non-overloading over the entire range of operation.
- C. Provide fan motors in accordance with section entitled "Electric Motors." Size motor to drive its respective fan when the fan is operating at a speed 5% in excess of that required to meet the scheduled fan performance. Do not select motors within the service factor for this range.
- D. Provide fan starters in accordance with section entitled "Motors Controllers" for installation by Division 26.
- E. Statically and dynamically balance fan wheels/impellers at the factory and so certify.
- F. Provide precision self-aligning bearings designed to prevent leakage of oil or grease. Provide cups, oil chambers, Zerk or Alemite lubrication fittings in accessible locations for ease of lubrication. Provide heavy duty split pillow block bearings with tapered, double-row spherical roller assemblies. Provide bearings with service life in excess of 200,000 hours at maximum cataloged fan operating conditions.
- G. Provide copper lubrication leads, for lubrication of internal motors and bearings, extending to a capped termination point external to the fan casing.
- H. Extend wire leads on fans driven by direct motor drive from the motor in air tight rigid walled conduit, to a junction box mounted external to the fan casing.
- I. On fans driven by belt drive provide standard "V-groove" type belts and sheaves suitable for the service intended. Fan sheaves are non-adjustable type with removable machined bushings. Provide adjustable pitch type motor sheaves with double locking feature, to 10% above and below the rated fan speed. Dynamically balance sheaves with over three grooves. For fan motors over 10 horsepower, provide at least two belts. Design multiple belt drives capable of carrying the entire load with one belt broken. Provide preformed expanded metal or sheetmetal belt guards, with grommets tachometer ports at the fan and motor shafts, for all exposed sheaves and belts.
- J. For motors in the airstream, provide TEAO or ODP type motors.
- K. Provide solid hot rolled steel drive shafts, accurately turned and polished to a close tolerance where in contact with bearings. Secure fan wheels/impellers to the drive shaft by a key and keyway assembly.
- L. Manufacture fans of materials and finishes suitable for the service intended.



- M. Construct wheels/impellers exposed to normal atmospheres of mild steel, hot dip galvanized, and finished with two layers of factory applied non-scaling paint.
- N. Construct fans exposed to corrosive atmospheres of corrosion resistant materials suitable for intended use, and factory finished with epoxy or other approved corrosion resistant coatings.
- O. Provide fans exposed to elevated temperatures with components rated for high temperature service. Do not use belt drive assemblies exposed to the airstream. Use direct drive motors certified for high temperature service.
- P. Construct fans used to convey flammable vapors of non-sparking (non-ferrous) materials, and use explosion proof motors.
- Q. Electrically ground fan and drive to prevent accumulation of static charge.
- R. Completely house fan assemblies exposed to weather in weatherproof enclosures including motor and drive.
- S. Fan wheels/impellers and casings shall be relieved of residual stresses produced in the forming process.
- T. Provide fans used to exhaust grease laden vapors with motor drive and bearings completely external of air stream.
- U. Provide housings with integral inlet and discharge flanges, complete with bolt holes for duct connections.
- V. Provide parallel vane pre-rotation vortex dampers at the fan inlet for variable volume control. Furnish and install all necessary linkages and accessories required for automatic control.
- W. Provide gasketed access doors to permit routine maintenance and inspection of motor and internal components.

2.2 AXIAL FANS

A. Propeller Type

- 1. Include propeller type impellers, complete with motors, and panel or ring mountings.
- 2. Vary fan blades in camber and twist from base to tip.
- 3. Construct impellers of die formed steel or aluminum attached to a central hub mounted on the fixed drive shaft.
- 4. Rotate fan hub on the fixed drive shaft using sealed ball bearings.
- 5. To eliminate overhang load on belted units, design to apply belt load to the hub in the same plane as the bearings.



6. Direct drive fans are acceptable where belt driven units do not meet the criteria.
7. Provide panels or rings with spun venturi inlets suitable for wall mounting and structural angle supports of welded steel construction.
8. Provide basket type fan guards for exposed inlets and discharges.
9. Acceptable Manufacturers
 - a. Loren Cook
 - b. Greenheck
 - c. Penn
 - d. Aerovent
 - e. Peerless
 - f. Approved Equal.

PART 3 - EXECUTION

3.1 GENERAL

- A. Install fans in accordance with manufacturer's recommendations and as shown on the Drawings. Follow SMACNA and AMCA recommended procedures for fan installations, belt guards, duct connections, etc.
- B. Provide flexible connections as described in specification section entitled "Sheetmetal" to provide sufficient separation of ductwork from fan assembly to prevent metal-to-metal contact.
- C. Install fans and motors with proper support and vibration isolation as specified in section entitled "Vibration Isolation".
- D. Provide sufficient clearances around fans for access and servicing of components. Install fans such that access doors, motors, belts, lubrication lines, electrical connections, etc. are readily accessible and not obstructed by other installations or structures.
- E. Bump start fans to check that fan wheel/impeller rotation corresponds to the desired direction of air flow. Correct fans found to be rotating in a direction opposite to that desired.
- F. Tighten belt drives, taking into account the service factor and any other design of the drive. Exercise care not to overtension belts.
- G. Check all bolts and fasteners to ensure proper tightness. Do not overtighten nuts and bolts.



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- H. Check bearings and motor for proper lubrication, taking care not to overlubricate.
Use only lubricants recommended by the manufacturer.

END OF SECTION



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SECTION 23 84 40

SPACE HEATING UNITS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project:
1. The Contract Drawings,
 2. The Specifications,
 3. The General Conditions,
 4. The Addendum, and
 5. The Contract [City of New York Standard Construction Contract].

1.2 DESCRIPTION

- A. Provide heating units in accordance with the Contract Documents.

1.3 WORK INCLUDED

- A. Unit Heaters.

1.4 SUBMITTALS

- A. Submit manufacturer's latest information on construction details, capacity data and installation details.

1.5 QUALITY ASSURANCE

- A. All electric heating units to be U.L. or ETL rated and bear certifying label.

PART 2- PRODUCTS

2.1 UNIT HEATERS - PROPELLER FAN TYPE

- A. Provide propeller type unit heaters with heating elements, motor driven propeller type fans, all installed in a metal casing, finished with lacquer or baked-on enamel.
- B. Motor speeds not to exceed 1,500 rpm. Remove and replace any unit heaters which are found to be objectionably noisy in the opinion of the Commissioner.



- C. Each unit heater to be properly supported from building construction and braced, as necessary, to prevent sway. Unit heaters shall not be supported by the piping to which they are connected.
- D. For electric unit heaters, provide heating elements of sheathed nickel-chromium wire.

2.2 CONTROLS

A. Unit Heaters

- 1. Thermostats shall be furnished by equipment manufacturer. Thermostats shall be line voltage, and designed to operate on a 3° differential over a temperature range of 45°-75°.

2.3 ACCEPTABLE MANUFACTURERS

A. Unit Heaters

- 1. Trane
- 2. Markel
- 3. Airtherm
- 4. York
- 5. Approved Equal.

PART 3 - EXECUTION

3.1 ACCESSORIES

- A. Provide all accessories indicated on Contract Drawings.

END OF SECTION



SECTION 23 86 00

ELECTRIC MOTOR CONTROLLERS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project:
 - 1. The Contract Drawings,
 - 2. The Specifications,
 - 3. The General Conditions,
 - 4. The Addendum, and
 - 5. The Contract [City of New York Standard Construction Contract].

1.2 DESCRIPTION

- A. Provide electric motor controllers in accordance with the Contract Documents.

1.3 WORK INCLUDED

- A. Combination Starters and Disconnect Switches.

1.4 SUBMITTALS

- A. Shop Drawings
 - 1. Submit a list of motor controllers required for the project. This list should include equipment tag, equipment motor size, starter type, starter features.
 - 2. Submit a statement of compliance, or non-compliance for each clause of this specification section.
 - 3. Submit a statement of understanding that each starter has a withstand rating that is coordinated with the electrical system installation.
 - 4. Submit shop drawings and manufacturer's data for all items in accordance with the conditions of the contract.
 - 5. Include control diagrams, unit wiring diagram for each motor controller, assembly outline drawings, summary sheets, shop interwiring diagrams, field connection diagrams, and nameplates with legends.
- B. Include a statement verifying coordination with the automatic temperature controls and the fire alarm system.



1.5 QUALITY ASSURANCE

- A. Motor Controllers: Comply with Underwriters' Laboratories standard UL-508 (being transitioned to WL 60947) and National Electrical Manufacturers Association Standard ICS 2-2000.
- B. Disconnect Switches: Comply with National Electrical Manufacturers Standard ICS 2-1996, Part 8 (R 2004, R 2009).
- C. Warranty shall be for 5 Years from date of shipment and shall cover replacement parts on all components.

PART 2 - PRODUCTS

2.1 COMBINATION STARTERS AND DISCONNECT SWITCHES

- A. Provide suitable fully coordinated starting and controlling equipment for motors as required. Arrange the starting equipment as indicated in other sections of these specifications.
- B. Determine the exact requirements for each device.
- C. Contractor shall establish required auxiliaries, including relays, contacts, terminals and the like. All three phase starters to have a minimum of (2) normally open and (2) normally closed auxiliary contacts.
- D. All starter interface and termination points shall be made at a terminal strip provided with the motor controller.
- E. Provide individual starters fully enclosed in neatly finished ventilated boxes of code gauge steel, machine formed and welded. Provide boxes arranged for floor, wall or angle iron frame mounting including a door with a spring catch handle with facility to lock handle in open position.
- F. Provide engraved nameplates for each unit, nomenclature of each to be approved prior to fabrication.
- G. Provide starters for motors less than 1/2 horsepower, as 120 volt, 1-phase, 60 cycle, or 277 volt 1-Phase, 60 cycle, alternating current service with pilot light. Provide manual starters with overload protection and lockout type disconnect switch to control such motors, except where interlocks or automatic controls are required. In such cases, provide magnetic across-the-line starters.
- H. Fire smoke dampers, smoke dampers and automatic louver dampers will be started using addressable relay modules provided by the fire alarm or building control compactor.
- I. Provide starters for motors 1/2 horsepower to 100 horsepower as magnetic across-the-line, combination Motor Circuit Protector or Circuit Breaker type. Such starters to be 208 or 480 volt, 3-phase, 60 cycle, alternating current service.



- J. Provide magnetic starters subject to manual start and in direct view of the motors they control with momentary contact start and stop buttons built into cover. Provide magnetic starters subject to electrical interlock or automatic control with Hand-Off-Automatic switches built into cover. Provide selector switches in starters to be of the maintained-contact type, water tight and dust tight.
- K. Provide starters with water tight and dust tight, (5) pilot lights on the following indications: Hand, Off, Auto, Run, and Overload.
- L. Provide starters for service at voltages higher than 120 volt with transformers for 120 volt secondary service built into each starter casing to serve control circuits.
- M. Provide each starter subject to electrical interlock and/or automatic control with the necessary auxiliary contacts plus one spare set of normally open and normally closed auxiliary contacts. Provide one set of terminals for each control circuit.
- N. Provide magnetic starters with Solid State Electronic Overload Relay which shall protect all three phases with a wide range current setting and trip class to allow field adjustment for specific motor FLA. Interchangeable heater elements are not acceptable. Overload relay shall provide phase failure, phase loss, locked rotor and stall protection.
- O. Provide coils, cores, resistance, insulation, contacts, trippers, etc., for starters and relays. The motor circuit protector shall be UL listed 508 current limiting manual motor starters with magnetic trip elements only. The breaker shall carry a UL 508F rating which provides for coordinated short circuit rating for use with the NEMA rated motor contractor and provides a minimum interrupting rating of 30 KAIC for the combination starter.
- P. Provide over/under voltage and phase monitoring capability. Monitor shall be field adjustable for both over and under voltage levels and a delay time before returning to normal operation after a trip.
- Q. Mount individual motor controllers in NEMA Type 1A enclosures for typical indoor locations. Utilize NEMA Type 3R for outdoor locations and NEMA Type 4 for other wet locations or locations subject to water spray or very high humidity.

2.2 MOTOR CONTROL CENTERS

- A. Provided by the Contractor.

2.3 ACCEPTABLE MANUFACTURERS

- A. Cerus
- B. General Electric
- C. Square Dee
- D. Siemens
- E. Eaton/Cutler Hammer



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F. Allen Bradley

PART 3- EXECUTION

3.1 **INSTALLATION**

- A. Motor controllers will be installed under work of the Contractor.
- B. Various pieces of packaged equipment will be provided with starters installed by manufacturer at the factory. Coordinate the Division 26 work with these starters.

END OF SECTION



SECTION 26 00 03

ELECTRICAL SCOPE OF WORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project:
1. The Contract Drawings,
 2. The Specifications,
 3. The General Conditions,
 4. The Addendum, and
 5. The Contract [City of New York Standard Construction Contract].

1.2 DESCRIPTION

- A. Provide the work included in accordance with the Contract Documents.

1.3 WORK INCLUDED

Provide all labor, materials, equipment, tools, appliances, auxiliaries, services, hoisting, scaffolding, support, supervision, and Project Record Documents, and perform all operations for the furnishing and installing of the complete electrical system, including but not limited to the work described hereinafter. The work shall meet or exceed the latest codes, regulations and requirements of the New York City Building Department.

- A. The electrical work is shown schematically on the Contract Drawings to indicate the general system arrangement and configuration. The work of this Division shall include coordination with the work of other Divisions of the Specifications and the Contract Documents so as to provide a complete and operational system capable of being readily operated and maintained, including approved rearrangement of the systems and equipment and rerouting of distribution services to enable the complete system to fit within the confines of the allotted electrical spaces, all to the satisfaction of the Commissioner or as directed by the Commissioner.
- B. The work includes, but is not limited to the following:
1. Equipment supports and miscellaneous steel for electrical equipment.
 2. Vibration isolation and restraints for the electrical installation.
 3. Temporary power and lighting system.
 4. Service and distribution feeders.



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5. Complete 277/480 volt and 120/208 volt light and power distribution system.
6. Fire alarm system, devices, wiring, conduit and programming.
7. Lighting fixtures, lamps, convenience outlet systems, and miscellaneous wiring devices.
8. Motor power wiring and installation of motor starters.
9. Miscellaneous electrical equipment and systems.
10. Elevator power, lighting, receptacle, telephone and empty conduit systems.
11. Balancing loads.
12. Grounding system.
13. Sealing of sleeves and other electrical openings.
14. As-built reproducible tracings and electronic files.
15. Field painting.
16. Field acceptance testing, adjusting and balancing.
17. O & M Manuals.

END OF SECTION



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SECTION 26 00 05

ACCESS DOORS IN ELECTRICAL WORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project:
1. The Contract Drawings,
 2. The Specifications,
 3. The General Conditions,
 4. The Addendum, and
 5. The Contract [City of New York Standard Construction Contract].

1.2 DESCRIPTION

- A. Furnish access doors located in general construction in accordance with the Contract Documents for setting under general construction work. Access doors shall be provided for the operation and maintenance of concealed equipment, pullboxes, ballasts, etc.

1.3 WORK INCLUDED

- A. Access Doors in Drywall.
B. Access Doors in Ceilings.
C. Access Doors in Masonry.
D. Fire Rated Access Doors.
E. Color Coded Buttons.

1.4 SUBMITTALS

- A. Provide manufacturer's data on access doors to be furnished in each type of general construction by location within the project.

PART 2 - PRODUCTS

2.1 GENERAL

- A. Wherever access is required through walls or ceilings to junction boxes, pull boxes, control panels, devices, or other concealed equipment



installed under this Division, furnish a hinged access door with flush screwdriver operated cam locks and frame as follows:

1. Drywall construction--Milcor Style DW or approved equal.
 2. Finished acoustical tile ceiling--Milcor Style AT or approved equal.
 3. Finished plaster ceiling--Milcor Style AP or approved equal.
 4. Finished plaster walls --Milcor Style K or approved equal.
 5. 1 ½ Hour rated shaft --Milcor Fire Rated MIFAB-MPFR or approved equal.
 6. Provide access doors in rated construction with "B" label fire construction. Furnish a U.L. label on each access door.
 7. Coordinate all sizes and locations with Contractor.
 8. No access door shall be installed until location and type have been approved by the Commissioner.
- B. Furnish color coded buttons or tabs to indicate location of pull boxes, control panels, devices, or other equipment located above removable type ceilings where access doors are not required.
- C. Make access door size a minimum of 18" x 18".

PART 3 - EXECUTION

3.1 GENERAL

- A. Coordinate sizes and location of all access doors with the Contractor.
- B. Direct location and setting of access doors in hung ceilings, furred spaces, walls, etc., to provide access to all concealed work items requiring maintenance and/or adjustment and as directed by the Commissioner. Obtain acceptance of the Commissioner for the locations and sizes of such access doors.
- C. Locate and group equipment requiring access doors so that access door locations are aesthetically acceptable. Coordinate location of equipment requiring access with other trades to minimize number of access doors in one area. Prepare drawings of pull boxes, control panels, devices, etc. locations indicating proposed access door locations for review by the Commissioner prior to installation of pull boxes, control panels, devices, etc. Include equipment of other trades on the Contract Drawing.

END OF SECTION



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SECTION 26 02 50

SYSTEMS IDENTIFICATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project:
1. The Contract Drawings,
 2. The Specifications,
 3. The General Conditions,
 4. The Addendum, and
 5. The Contract [City of New York Standard Construction Contract].

1.2 DESCRIPTION

- A. Provide fixed identification of all distribution equipment and conductors in accordance with the Contract Documents.

1.3 WORK INCLUDED

- A. Fixed identification for:
1. Panelboards and Load Centers.
 2. Feeder Switches.
 3. Disconnect Switches/Enclosed Circuit Breakers.
 4. Feeder Switches (Fuse Identification).
 5. Wall Plates.
 6. Pullboxes, Enclosures and Cable Terminations.
 7. Luminaires.

1.4 SUBMITTALS

- A. Identification procedures shall be noted and scheduled on the applicable shop drawings.

1.5 QUALITY ASSURANCE

- A. Except as modified by governing codes and by the Contract Documents, comply with the latest applicable provisions and latest recommendations of the following:
 - 1. Industry standards shall apply.
 - 2. NFPA 70.
 - 3. ANSI A13.1 and NFPA for color coding.
 - 4. ANSI Z535-4.
 - 5. OSHA Standards.

PART 2 - PRODUCTS

2.1 GENERAL

- A. Unless otherwise noted, nameplates shall be black bakelite plates with white engraved upper case letters enclosed by white border on beveled edge.
- B. Nameplates for equipment supplied by the emergency system shall be red bakelite with white lettering.
- C. All nameplates must be engraved and must be secured with rivets, brass or cadmium plate screws. The use of Dymo type or the like is unacceptable.
- D. Lettering heights unless otherwise noted must be as follows:

Item	Lettering Height
Panelboards, Load Centers & Lighting Panels	1/2"
Feeder Switches	1/4"
Disconnect Switches/Enclosed Circuit Breakers	1/2"
Feeder Switches (Fuse Identification)	1/4"
Wall Plates	1/8"
Pullbox, Enclosures and Cable Terminations	1/8"

- E. Cable tags must be flameproof secured with flameproof non-metallic cord.
- F. Nameplate inscriptions must bear the name and number of the equipment to which they are attached as indicated on the Contract Drawings. The Commissioner reserves the right to make modifications in the inscriptions as necessary.



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- G. The Commissioner reserves the right to request additional nameplates at the time of review of shop drawings and upon site observations. These shall be furnished at no additional cost to the City of New York.
- H. Do not manufacture or install nameplates until approved by the City of New York.

PART 3 - EXECUTION

3.1 PANELBOARDS, LOAD CENTERS AND TRANSFORMERS

- A. Furnish and install a nameplate for each panelboard and load center engraved with the identification indicated on the Contract Drawings. Mount at top of panel.
- B. After installations are complete, provide and mount under sturdy transparent shield in the directory frame of each panel door, a neat, accurate and carefully typed directory properly identifying the lighting, receptacles, outlets, and equipment each overcurrent device controls.
- C. Include on directory the panel or load center identification, the cable and raceway size of panel feeder, and the feeder origination point.
- D. Provide a nameplate for each transformer engraved with the primary and secondary feeder sizes.

3.2 DISCONNECT SWITCHES AND ENCLOSED CIRCUIT BREAKERS

- A. Furnish and install a nameplate for each disconnect switch and enclosed circuit breaker engraved with the equipment designation.

3.3 FEEDER SWITCHES

- A. Furnish and install for each feeder switch including, but not limited to those in switchboards, those in switch and fuse panelboards, those take-offs at bus ducts, those in motor control centers, those in meter centers, etc. two (2) nameplates as follows.

- 1. The first nameplate must be white background with red lettering. Engrave with the words "REPLACE ONLY WITH ____ FUSE". Engrave with proper fuse trade name and ampere rating (i.e. Bussmann LPS-R 100).
- 2. The second nameplate shall indicate the load served, the size and type of cable and raceway example:

Panels LP-4, LP-5, LP-6
4#500 MCM-THHN-CU-3-1/2"C.

3.4 WALL PLATES

- A. Furnish and install an engraved wall plate for each switch controlling loads which are not local to the switch. Engraving shall be as directed by the Commissioner



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- B. Furnish and install engraved wall plate for each receptacle indicating the panel and circuit number.

3.5 PULLBOXES, ENCLOSURES AND CABLE TERMINATIONS

- A. Furnish and install cable tags on each cable which enters a pullbox, enclosure, switchboard and at terminations. Mark tags with type written inscription noting the load served, type and size of cable and the overcurrent device protecting the cable.

3.6 LUMINAIRES

- A. Where connected to other than 120 volt circuit, provide each fluorescent or high intensity discharge fixture with the ballast voltage stenciled on the ballast cover in letters not less than ½ inch high.

END OF SECTION



SECTION 26 02 65

TESTING, ADJUSTING AND BALANCING FOR ELECTRICAL WORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project:
1. The Contract Drawings,
 2. The Specifications,
 3. The General Conditions,
 4. The Addendum, and
 5. The Contract [City of New York Standard Construction Contract].

1.2 DESCRIPTION

- A. Provide complete field acceptance testing of equipment and systems throughout in accordance with the Contract Documents. This testing is in addition to any required commissioning requirements.

1.3 WORK INCLUDED

- A. Testing, adjusting, and balancing for:
1. Wire and Cable (600 Volts and Below).
 2. Motor Controllers, including variable frequency drives.
 3. Motors.
 4. Life Safety Fire Alarm Systems.
 5. Ballasts.
 6. Emergency Battery System, Packs and Quartz Standby Units.
 7. Grounding.

1.4 SUBMITTALS

- A. Provide test results as required herein and in each section of this Division.



1.5 QUALITY ASSURANCE

- A. Except as modified by governing codes and by the Contract Documents comply with the latest applicable provisions and the latest recommendations of the following:
1. Industry standards shall apply except as otherwise specified.
 2. Testing Agency Qualifications: as specified in each section within this specification containing electrical testing requirements.
 3. NETA.

PART 2 - PRODUCTS

2.1 GENERAL

- A. Provide all labor, premium labor and materials required by shop and field acceptance testing, adjusting, and balancing as specified in the Contract Documents and as required by the authorities having jurisdiction.

2.2 SYSTEMS

- A. The following systems shall be tested, inspected and certified per NETA standards.
1. Wire and Cable (600 Volts and Below):
 - a. Inspect all splices and terminations and make mechanically and electrically tight during a fifteen (15) day period immediately prior to final acceptance of the work.
 - b. Perform standard 600 volt insulation resistance test with "megger" tester and all conductors. Test shall show insulation resistance in excess of minimum values required by the NETA and continuity. Submit certification to the Commissioner.
 2. Motor Controllers:
 - a. Submit with certification in tabular form a complete listing of all motors on the project for which motor controllers, including variable frequency drives, have been furnished. Include on this listing, the nameplate full load amperes of each motor and the size overload heaters installed in each motor controller.
 3. Motors:
 - a. Test all motors under load and verify that motor rotation is correct.
 4. Life Safety Fire Alarm Systems:
 - a. All fire alarm system wiring must be inspected and tested to insure that there are no grounds, opens or shorts. The minimum allowable



resistance between any two conductors or between conductors and ground is ten (10) megohms as measured with a 500 volt megger after all conduit, conductors, detector bases, etc., have been installed, but before the detector devices are plugged into the bases or end-of-line devices installed.

- b. The Contractor must perform all electrical and mechanical tests required by the equipment manufacturers. All test and report costs must be in the Contract price. A checkout report shall be prepared by the technician and submitted in triplicate, one copy of which will be registered with the equipment manufacturer. The report shall include, but shall not be limited to:
 - (1) A complete list of equipment installed and wired.
 - (2) Indication that all equipment is properly installed and functions in conformance with these specifications.
 - (3) Tests results of all individual zones.
 - (4) Serial numbers, locations by zone and model number for each installed detector.
 - (5) Voltage (sensitivity) settings for each ionization detector as measured in place.
 - (6) Response time on all detectors.
 - (7) Contractor shall submit a certified report indicating the following:
 - (a) Operating all manual stations and all detectors that can be reset.
 - (b) Verifying line supervision of each initiating and indicating circuit.
 - (c) Verifying the operation of each initiating circuit.
 - (d) Verifying the operation of all indicating devices.
 - (e) Verifying the operation of all alarm-initiated functions.
 - (f) Verifying full operation of the FACP.

5. Ballasts:

- a. Submit manufacturer's certification that ballasts and transformers for discharge type lamps comply with the latest C.B.M. specifications which have been issued.



6. Emergency Battery System, Packs and Quartz Standby Units:
 - a. Each emergency battery pack and system shall be shown to operate satisfactorily. This shall be accomplished by the use of the unit mounted test switch as one test. The second test shall be the interruption of power to the unit.
 - b. Quartz standby lamps in H.I.D. luminaires shall be tested to show proper operation by testing as listed above.
7. Grounding:
 - a. Upon completion of the electrical grounding system, the contractor shall test the grounding system for stray currents, grounds, shorts, etc. These tests shall be performed with approved calibrated instruments.
 - b. Perform point-to-point tests to determine the resistance between the main grounding system and all electrical equipment frames, system neutral, and all derived neutral points.
 - c. The Contractor shall submit in writing to the Commissioner a letter indicating the ohmic resistance of the service grounds and a statement that the grounding system is free of all defects, stray currents, shorts, etc.

PART 3 - EXECUTION

3.1 GENERAL

- A. Notify the Commissioner seven (7) days prior to the testing dates. If the Commissioner so elect not to witness a specific test a statement of certification must be forwarded to the Commissioner for his approval.
- B. Conduct tests at a time agreeable to the Commissioner. Provide premium labor as necessary.
- C. Products which are found defective or do not pass such tests shall be removed and replaced at the Contractor's expense. All tests shall be repeated until equipment meets all testing criteria.
- D. Arrange for and conduct all test and inspections required by the New York City Building Codes. All fees for testing and inspection shall be paid by the Contractor.
- E. All test results shall be submitted to the Commissioner.
- F. Refer to individual specification sections for additional equipment testing requirements.

END OF SECTION



SECTION 26 02 80

EQUIPMENT CONNECTIONS AND COORDINATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project:
1. The Contract Drawings,
 2. The Specifications,
 3. The General Conditions,
 4. The Addendum, and
 5. The Contract [City of New York Standard Construction Contract].

1.2 DESCRIPTION

- A. Provide final connections to equipment and coordinate same in accordance with the Contract Documents.

1.3 WORK INCLUDED

- A. Equipment to receive final connections shall include but not be limited to the following:
1. Elevators.
 2. Motors and Equipment.

1.4 QUALITY ASSURANCE

- A. Except as modified by governing codes and by the Contract Documents, comply with the latest applicable provisions and latest recommendations of the following:
1. American National Standard Safety Code for Elevators Dumbwaiters and Moving Walks (ANSI A17.1).
 2. State Elevator Code.

PART 2- EXECUTION

2.1 EXAMINATION OF DOCUMENTS

- A. This Contractor shall familiarize himself with all conditions affecting the proposed installation of equipment requiring electrical connections and shall make provisions



as to the cost thereof. Failure to comply with the intent of this paragraph shall in no way relieve the Contractor of performing all necessary work required for final electrical connections and equipment and the coordination thereof.

- B. Connections shall be made in accordance with the manufacturers' recommendations and reviewed shop drawings.

2.2 ELEVATORS

- A. Provide connections for and coordination of elevators including but not limited to the following:
1. Provide dedicated power outlets (one circuit per car) and emergency circuitry for car lights and fans. Provide separate circuits fed by lockable circuit breakers per car. Provide lockable disconnecting means in the elevator machine room for each circuit. The disconnecting means shall be labeled to identify the appropriate elevator number and marked "Car Lights". All branch circuits overcurrent protective device shall be located in the machine room per NEC article 620.
 2. Provide empty raceways from each controller to the nearest telephone backboard for telephone communications, size per the elevator manufacturer's requirements.
 3. Provide 1' x 4' fluorescent lighting fixture, switch and GFI duplex outlet within each elevator pit. Each shall be on a separate circuit fed by dedicated lockable breakers. All devices in the elevator pit shall be weatherproof. Locate switch adjacent to the pit door or service ladder. Light fixture shall be equipped with a protective wire guard. For common pits, provide multiple light fixtures to match car quantities unless otherwise noted on the Contract Documents.
 4. Provide empty 2" raceways from each elevator pit to the Fire Command Station. Size and quantity of raceways shall be per elevator vendor's requirements.
 5. Provide empty 2" raceways from each elevator pit to each remote elevator status panel. Size and quantity of raceways shall be per elevator vendor's requirements.
 6. Provide heavy-duty, lockable type fused disconnect switches with feeders extended to and connected at each elevator controller. Provide a minimum of 1 #6 AWG ground conductor bonded for every elevator. Fuse sizes shall be as per elevator vendor's requirements. All fuses shall be time delay current limiting type Class RK1 or equivalent. Location of switches shall be at the room entry or as indicated on contract drawings. An additional disconnect switch shall be provided for any elevator where the motor is not in "line of sight" of the fused disconnect switch at the room entry.
 7. Provide fire alarm speaker within each elevator cab and appropriate connections at the elevator machine room and Fire Alarm System.



8. Provide firefighter's telephone within each elevator cab and appropriate connections at the elevator machine room and Fire Alarm System.
9. Provide recall smoke detectors in each elevator lobby; top of each elevator cab shaft; each elevator machine room; and each elevator cab pit.
10. Provide GFI receptacle and a light switch located within 18" of each machine room door strike. The light fixture shall not be circuited to the load side terminals of the GFI receptacle. The light fixture shall be equipped with a protective wire guard. Provide lockable type circuit breaker.

2.3 MOTORS AND EQUIPMENT

- A. Connections for and coordination of motors and equipment requiring electrical connections shall be included but is not be limited to the following:
 1. Install motor controllers and disconnect switches for each motor and each piece of equipment.
 2. Verify that the motor rotation is correct and reconnect if necessary.
 3. Provide separate ground conductor in flexible metal conduit so as to provide an electrically continuous ground path. Ground all equipment.
 4. Provide motor branch circuit conductors and connections to each individual motor controller and from each controller to the motor through an approved disconnect switch. Make final connection in a minimum of 24 inch length of liquid-tight, flexible, metal conduit.
 5. Provide all necessary wiring and connections for interlocking, remote and automatic controls. Installation of equipment and wiring shall be in compliance with the manufacturer's recommendations.
 6. Where equipment is fed from a branch circuit routed in or under the slab, terminate branch circuit at a junction box on 2 foot rigid conduit stub-up and make final connection to equipment in liquid-tight, flexible, metal conduit. Provide suitable knee brace on conduit stub-up.
 7. Where equipment is fed from overhead, support conduit feeder descending from ceiling on flanged floor fitting with conduit type fitting connecting to a motor with 24-inch minimum of liquid-tight flexible metal conduit.
 8. Where nameplate on equipment indicates fuse protection, the disconnecting means shall be equipped with time delay fuses.

END OF SECTION



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SECTION 26 02 90

CEILING, FLOOR AND WALL ELECTRICAL PENETRATION FIRE SEALS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project:
1. The Contract Drawings,
 2. The Specifications,
 3. The General Conditions,
 4. The Addendum, and
 5. The Contract [City of New York Standard Construction Contract].

1.2 DESCRIPTION

- A. Provide pre-mixed putty sealant at wall, ceiling and/or floor electrical penetration fire seals in accordance with the Contract Documents.

1.3 WORK INCLUDED

- A. Wall, ceiling and/or floor electrical penetration fire seals.

1.4 SUBMITTALS

- A. Product Data
1. Submit manufacturer's product data for all fire seals, including barrier rating.

1.5 QUALITY ASSURANCE

- A. Except as modified by governing codes and by the Contract Documents, comply with the latest applicable provisions and latest recommendations of the following:
1. ASTM E-814, "Fire Test of Penetration Fire Stops."
 2. ANSI/UL 1479, "Fire Tests of Through Penetration Firestops."
 3. ASTM E-119, "Fire Tests of Building Constructions and Materials."
 4. ANSI/UL263, "Fire Tests of Building Construction and Materials."
 5. ASTM E-84, "Surface Burning Characteristics of Building Materials."
 6. ANSI/UL723, "Surface Burning Characteristics of Building Materials."



- B. All products shall contain no VOC nor emit odors.

1.6 PERFORMANCE REQUIREMENTS

- A. Provide products that upon curing, do not re-emulsify, dissolve, leach, breakdown or otherwise deteriorate over time from exposure to atmospheric moisture, sweating pipes, ponding water or other forms of moisture characteristic during and after construction.
- B. Openings within walls and floors designed to accommodate cabling systems subjected to frequent cable changes shall be provided with re-enterable products specifically designed for retrofit.

1.7 DELIVERY, STORAGE AND HANDLING

- A. Deliver through-penetration firestop system products to the project site in original, unopened containers or packages with intact and legible manufacturer's labels identifying product and manufacturer, date of manufacture; lot number; shelf life, if applicable; qualified testing and inspection agency's classification marking; and mixing instructions for multicomponent materials.
- B. Store and handle materials for through-penetration firestop systems to prevent their deterioration or damage due to moisture, temperature changes, contaminants or other causes.

1.8 PROJECT CONDITIONS

- A. Do not install through-penetration firestop systems when ambient or substrate temperatures are outside limitations recommended by the manufacturer.
- B. Do not install through-penetration firestop systems when substrates are wet due to rain, frost, condensation, or other causes.
- C. Do not use materials that contain flammable solvents.
- D. Do not install water-based or products that are conductive when wet in contact with energized electrical conductors. Exercise care when energizing penetrants.

1.9 COORDINATION

- A. Coordinate construction of openings and penetrating items to ensure that through-penetration firestop systems are installed according to specified requirements.
- B. Coordinate sizing of sleeves, openings, core-drilled holes or cut openings to accommodate through-penetration firestop systems.
- C. Schedule installation of firestopping after completion of penetrating item installation but prior to covering or concealing of openings.



PART 2 - PRODUCTS

2.1 FIRE SEAL PUTTY SYSTEM

- A. System shall provide immediate fire seal, require no curing time and emit no hazardous or toxic fumes.
- B. Require no special tools and shall be capable of being installed from one side.
- C. No derating whatsoever required of wiring systems passing through seal.
- D. Field modified for additions or deletions of raceways or cables.
- E. Reusable materials to accommodate penetration changes.

2.2 MISCELLANEOUS FIRE SEAL PRODUCTS

- A. Firestop devices: Factory-assembled steel collars lined with intumescent material sized to fit specific outside diameter of penetrating item.
- B. Cast-In-Place Firestop Device: Single component molded firestop device installed on forms prior to concrete placement with totally encapsulated, tamper-proof integral firestop system and smoke sealing gasket.
- C. Composite Sheet: Intumescent material sandwiched between a galvanized steel sheet and steel wire mesh protected with aluminum foil.
- D. Fire Rated Grommet: Molded two-piece grommet made from plenum grade polymer with a foam inner core for sealing individual cable penetrations.
- E. Firestop Plugs: Re-enterable, foam rubber plug impregnated with intumescent material for use in spare sleeves and sleeves with cable.
- F. Firestop Putty: Intumescent, non-hardening, water resistant putties containing no solvents, inorganic fibers or silicone compounds.
- G. Firestop Putty Pads: Intumescent, non-hardening putty pads to be installed on metallic and nonmetallic electrical switch and receptacle boxes when horizontal separation between boxes is less than 24".
- H. Wrap Strips: Single component intumescent elastomeric strips faced on both sides with a plastic film.
- I. Latex Sealants: Single component latex formulations that upon cure do not emulsify during exposure to moisture.
- J. Silicone Sealants: Moisture curing, single component, silicone elastomeric sealant for horizontal surfaces (pourable or nonsag) or vertical surfaces (nonsag).
- K. Firestop Pillows: Re-enterable, non-curing mineral fiber core encapsulated with an intumescent coating contained in a flame retardant bag.



- L. Mortar: Portland cement based dry-mix product formulated for mixing with water at Project site to form a non-shrinking, water-resistant, homogenous mortar.
- M. Silicone Foam: Multicomponent, silicone-based liquid elastomers, that when mixed, expand and cure in place to produce a flexible, non-shrinking foam.

2.3 ACCEPTABLE MANUFACTURERS

- A. Nelson Firestop
- B. Hilti
- C. 3M
- D. Dow Solutions
- E. STI Inc.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Examination of Conditions: Examine areas and conditions under which work is to be performed and identify conditions detrimental to proper or timely completion.
- B. Surfaces to which firestop materials will be applied shall be free of dirt, grease, oil, scale, laitance, rust, release agents, water repellants, and any other substances that may inhibit optimum adhesion.
- C. Provide masking and temporary covering to prevent soiling of adjacent surfaces by firestopping materials.
- D. Do not proceed until unsatisfactory conditions have been corrected.

3.2 GENERAL

- A. Install fire seal in accordance with the manufacturer's requirements..
- B. Place minimum of 0.5 inches of putty around each penetrating item. When not possible build up cone around penetrating items, using second layer of putty. Slope cone at 30 degrees from wall or floor.
- C. Wall openings shall not have unsupported space of putty greater than 4 inches and floor openings an unsupported opening of 1.5 inches.
- D. Provide ceramic wool temperature rated 2300°F in conjunction with putty in accordance with manufacturer's instructions.
- E. Provide ceramic fiberboard temperature rated 2000°F in conjunction with putty in accordance with manufacturer's recommendation.



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- F. Firmly anchor penetrating items prior to putty installation. Provide all necessary anchor bolts, fittings, etc. as necessary.

3.3 FIELD QUALITY CONTROL

- A. Special Inspections: City of New York shall engage a qualified independent inspection agency to inspect through-penetration firestop systems.
- B. Keep areas of work accessible until inspection by authorities having jurisdiction.
- C. Where deficiencies are found, repair or replace through-penetration firestop systems so they comply with requirements.

3.4 ADJUSTING AND CLEANING

- A. Remove equipment, materials and debris, leaving area in undamaged, clean condition.
- B. Clean all surfaces adjacent to sealed openings to be free of excess through-penetration firestop system materials and soiling as work progresses.

3.5 INSTALLATION

- A. Provide fire seals at all cable, conduit and bus duct penetrations through fire-rated walls, floors and ceilings, and where noted on the Contract Drawings. Coordinate with architectural and structural drawings for location of fire-rated walls.
- B. Install in accordance with the manufacturer's directions to provide barrier rating equal to or greater than the barrier rating of wall.

END OF SECTION



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SECTION 26 05 19

600 VOLT WIRE AND CABLE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project:
1. The Contract Drawings,
 2. The Specifications,
 3. The General Conditions,
 4. The Addendum, and
 5. The Contract [City of New York Standard Construction Contract].

1.2 DESCRIPTION

- A. Provide 600 volt wire and cable in accordance with the Contract Documents.

1.3 WORK INCLUDED

- A. Wire and Cable.
- B. Connectors and Terminations.
- C. Electrical Tape.

1.4 SUBMITTALS

- A. Product Data: for each type of conductor, connectors and termination assemblies.
- B. Field Test Reports.

1.5 QUALITY ASSURANCE

- A. Except as modified by governing codes and by the Contract Documents, comply with the latest applicable provisions and latest recommendations of the following:
1. Underwriters' Laboratories labeling of all insulations and jackets.



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2. NEC
3. NRTL
4. Connections
 - a. 486A & 486B.

PART 2 - PRODUCTS

2.1 WIRE AND CABLE

- A. General
 1. Provide wire and cable with a minimum insulating rating of 600 volts, except for wire used in 50 volts or below applications. For control or signal systems, use 300 volt minimum or 600 volt where permitted to be incorporated with other wiring systems.
- B. Conductors
 1. Provide factory fabricated electrical grade, annealed copper conductors and fabricated in accordance with ASTM B3 standards.
- C. Stranding and Number of Conductors
 1. No. 12 and 10 AWG conductors shall be solid.
 2. Conductors larger than No. 10 AWG shall be stranded in accordance with ASTM Class B stranding designations.
 3. Control wires shall be stranded in accordance with ASTM Class B stranding designations.
- D. Insulated Single Conductors
 1. Type THW or THWN - Thermoplastic insulation suitable for use in wet locations up to 75°C.
 2. Type THHN - Flame Retardant: Heat-resistant thermoplastic insulation, nylon jacket rated for 90°C temperature rating.
- E. Multi-Conductor Control and Supervisory Control Cables
 1. Size No. 16 AWG, minimum.
 2. Suitable for direct burial, open air, duct or conduit installation.
 3. Temperature Rating: 75°C Wet or Dry.



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4. Uninsulated ground wire.
5. Cross-linked polyethylene conductor insulation; thickness satisfying requirements of ICEA.
6. Flame retardant overall polyvinyl jacket satisfying the requirements of ICEA.
7. Individual conductors bound together with overall binder tape prior to jacket application.
8. Individual conductors rating of 300 volts (instead of 600 volts) for cables designated Supervisory Control Cable.
9. Factory color coded.

F. Acceptable Manufacturers

1. Products by any manufacturer meeting the performance requirements specified herein may be utilized, but are not limited to, the following manufacturers:
 - a. American Insulated Wire Corp.
 - b. General Cable Corporation
 - c. Southwire Company
 - d. Belden
 - e. Pyrotenax/Tyco

2.2 CONNECTORS

A. Wire No. 10 AWG and Smaller

1. Hand-Applied:
 - a. Coiled tapered, spring wound devices with a conducting corrosion-resistant coating over the spring steel and a plastic cover and skirt providing full insulation for splice and wired ends. Screw connector on by hand.
2. Tool-Applied:
 - a. Steel cap, with conduction and corrosion resistant metallic plating, open at both ends, fitted around the twisted ends of the wire and compressed or crimped by means of a special die designed for the purpose. Specifically fitted plastic or rubber insulating cover wrap over each connector.
 - b. Hydraulic tool of same manufacturer as lug which shall emboss on the connector the proper die number for inspection.



B. Acceptable Manufacturers

1. Hubbell
2. OZ/Gedney
3. Thomas & Betts.

2.3 INSULATING TAPE

A. Provide vinyl plastic tape that meets the requirements of UL 510 and has the following characteristics:

1. 8.5 mil minimum thickness.
2. ASTM D-3005 Standard Specification for Low-Temperature Resistant Vinyl Chloride Plastic Pressure-Sensitive Electrical Insulating Tape – Type 1.
3. Rated 600 volts and 105°C, suitable for indoor and outdoor applications.
4. Retains flexibility, adhesion, and applicable at temperature ranges from 0 through 100°F without loss of physical or electrical properties.
5. Resistant to abrasion, moisture, alkalis, acid, corrosion, and sunlight.
6. Manufacturer: 3M "Scotch Super 88".

2.4 WIRE PULLING LUBRICANT

- A. Provide wire pulling lubricant that is compatible with the conductor insulation, has a maximum coefficient of friction of 0.055, and is stable up to a temperature of 180°F. For cold weather installations, provide wire pulling lubricant suitable for conduit temperature.
- B. Compatibility with conductor insulation shall be determined in accordance with IEEE Std 1210 Standard Tests for Determining Compatibility of Cable-Pulling Lubricants with Wire and Cable.

PART 3 - EXECUTION

3.1 WIRE AND CABLE

- A. Provide a complete system of conductors in a raceway system. Mount wiring through a specified raceway, regardless of voltage application.
- B. Contract Drawings do not indicate size of branch circuit wiring; use No. 12 AWG as a minimum. For 20 ampere branch circuits whose length from the panel to the furthest outlet exceeds 100 feet for 120-volt circuits or 150 feet for 277-volt circuits, use No. 10 AWG or larger for the entire branch circuit installation.
- C. Provide dedicated neutral conductor and equipment ground conductor for each branch circuit serving television broadcast equipment, audio visual equipment and



sound system equipment. If isolated grounds are shown as required, they shall also be dedicated.

- D. Provide dedicated neutral conductor for each dimmer branch circuit and for each ground fault interrupter branch circuits.
- E. Provide a shared neutral conductor, one (1) standard wire size greater than the branch circuit phase conductor, for all branch circuits to receptacle loads.
- F. Conductor Types
 - 1. Type THW or THWN - Use for lighting, receptacle and motor circuits and for panel and equipment feeders.
 - 2. Type THHN - Use for lighting branch circuit wiring installed and passing through the ballast channels of fluorescent fixtures.
- G. Do not install wire in incomplete conduit runs nor until after concrete work and plastering is completed and moisture is swabbed from the conduits. Eliminate splices wherever possible. Where necessary, splice in readily accessible pull, junction, or outlet box.
- H. Provide cable supports for all vertical risers where required by the NEC not to exceed the following for copper conductors. Modify if aluminum conductors are used to meet the NEC requirements:

Copper Minimum Conductor Size	Vertical Supports
No. 18 AWG to No. 8 AWG	100 ft.
No. 6 AWG to No. 0 AWG	100 ft.
No. 00 AWG to No. 0000 AWG	80 ft.
211,601 CM to 350,000 CM	60 ft.
350,001 CM to 500,000 CM	50 ft.
500,001 CM to 750,000 CM	40 ft.

- I. Flashover or insulation value of joints to be equal to that of the conductor. Use Underwriters' Laboratories listed connectors rated at 600 volts for general use and 1,000 volts for use between ballasts and lamps of gaseous discharge lighting fixtures.
- J. Use terminating fittings, connectors, etc., of a type suitable for the specified cable furnished. Make bends in cable at termination prior to installing compression device. Make fittings tight.



K. Color Coding

1. Provide consistent color coding of all AC feeders, sub-feeders, motor circuits and the likes as follows:

	208Y/120 Volts Code	480Y/277 Volts Code
Phase A	Black	Brown
Phase B	Red	Orange
Phase C	Blue	Yellow
Neutral	White	Grey
Ground	Green	Green
Isolated Ground	Green/Yellow Striped	N/A

2. Factory color code wire No. 2 AWG and smaller. Where color coding cannot be readily provided because of limited quantities involved, provide either of the following:
 - a. Plastic adhesive tape applied spirally and half-lapped over exposed portions of conductors within manholes, boxes, and similar enclosures. Tape shall be $\frac{3}{4}$ " minimum.
 - b. Colored tubing cut and inserted over ends of wire prior to installing terminals.
 - c. Provide black conductor insulation where colored tape is used to for color coding.
3. Wire No. 1 AWG and larger may be color coded by color taping of the entire length of the exposed ends.
4. Color code wiring for control systems installed in conjunction with mechanical and/or miscellaneous equipment in accordance with the wiring diagrams furnished with the equipment.
5. DC power system conductors shall be color coded; Positive – Red; Negative – Black.

3.2 INSTALLATION

A. General

1. Provide tools, equipment and materials to pull all wire and cable into place and to make required splices and termination.

B. Wire and Cable in Conduit, Duct or Wireway

1. Utilize roller bearing swivel to prevent twisting of cables entering the conduit or duct.



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2. Take precautions to avoid entrance of dirt and water into the conduit and ducts.
3. Clean conduits and ducts to remove any pulling compound prior to pulling of cables.
4. Do not damage conductor insulation, braid jacket or sheath during installation. Any damaged conductors shall be replaced immediately.
5. Do not bend conductors to less than the manufacturer's recommended radius.
6. Lubricate cable if required for pulling.
7. Make splices only in pull boxes, junction boxes and outlet boxes.
8. Utilize cable reels on jacks for pulling through pull boxes, ducts and conduits so bends will not be excessive and conductors will not touch sharp edges; use feeding tube where required.
9. For large diameter cables, utilize properly sized pulling grips (endless woven basket two to four feet long of ductile steel).
10. Do not exceed maximum recommended pulling tension of wire and cable.
11. Fire seal around cables penetrating fire rated barriers.
12. Provide proper supports of the cables installed in cable support boxes, in accordance with the NEC.

C. Splices, Terminations and Connections

1. General: Except where lugs are furnished with the equipment, provide terminals and connectors suitable for the quantity, conductor size and direction of entry (top or bottom).
2. Insulated Flanged Terminals: Provide for connection of conductors No. 12 AWG and smaller to device terminals; do not exceed three (3) terminals at any single connections.
3. Circumferential Compression Type Connectors or Cytolok spring compression terminator (Provide for Splices and Connections No. 6 AWG and larger):
 - a. Use for incoming and outgoing cable connections at enclosures and for ground connections.
 - b. Use manufacturer's approved tool and correct size hex head which embosses die number on the connector or lug.
 - c. Make crimped indentations parallel with insulation putty.
 - d. Fill voids and irregularities with insulation putty.



- e. Cover neatly with four (4) layers of vinyl plastic tape except where insulated covers are permitted; half-lap tape in two (2) directions.
- f. Use spring-held bakelite covers over splices or taps only with the approval by the Engineer.

D. Wire Marker Identification Labels

- 1. Utilize labels for those circuits where individual conductor identity is indicated on the Contract Drawings.
- 2. Apply to wires and cables at terminals and in all pull, junction and splice boxes.
- 3. Do not cut and splice multi-conductor control cable for purpose of labeling.
- 4. Clean surfaces before applying labels.

3.3 FIELD TESTING

- A. Test system wiring for continuity, grounds and short circuits prior to connection of any equipment.
- B. Test final equipment connections for continuity of grounds and short circuits.
- C. Insulation Resistance of Feeders and Subfeeders
 - 1. Test with megger for insulation resistance. Insulation resistance to comply with ICEA values.
 - 2. Correct faults and sections with faulty insulation.
- D. Remove and replace defective conductors and retest.

END OF SECTION



SECTION 26 05 26

GROUNDING SYSTEM

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project:
 - 1. The Contract Drawings,
 - 2. The Specifications,
 - 3. The General Conditions,
 - 4. The Addendum, and
 - 5. The Contract [City of New York Standard Construction Contract].

1.2 DESCRIPTION

- A. Provide a low impedance grounding system in accordance with the Contract Documents.

1.3 WORK INCLUDED

- A. Ground Connectors and Clamps; Grounding, Bushings and Locknuts.
- B. Welding Type Ground Connectors.
- C. Compression Type Grid Connectors.
- D. Ground Rods, Plates, and Clamps.
- E. Electrical Insulating Tape.
- F. Compound for Compression Connectors.

1.4 SUBMITTALS

- A. Shop Drawings
 - 1. Provide a complete set of shop drawings showing service and all grounding methods as called for on the Contract Documents and required by the NEC.
- B. Test Reports
 - 1. Submit test reports certifying resistance values for buried or driven grounds and water pipe grounds.



1.5 QUALITY ASSURANCE

- A. Except as modified by governing codes and by the Contract Documents, comply with the latest applicable provisions and latest recommendations of the following:
 - 1. Underwriters Laboratory Standard No. U.L. 467.
 - 2. ANSI/IEEE C2 – National Electrical Safety Code.
 - 3. IEEE Standard No. 142-1982, 1100-1992, and No. 80.
 - 4. NFPA 780 and UL 96 when interconnected with a lightning protection system.
 - 5. NETA.
 - 6. NFPA 70 – National Electric Code (NEC).

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Ground Conductors: Bare or green color coded, insulated, annealed stranded tinned copper conductor as indicated on the Contract Drawings; insulated conductor to conform with the requirements of the conductor specification section herein.
- B. Mechanical Connectors: Tin-plated aluminum alloy, U.L. approved and stamped for use with aluminum or copper conductors. Connectors shall be heavy duty type and be highly conductive.
- C. Ground Lugs: Tin-plated aluminum alloy, suitable for use with aluminum or copper conductors.
- D. Bonding Jumper Braid: Copper braided tape, constructed of 30-gauge bare copper wires and properly sized for indicated applications.
- E. Grounding Bus: Bare, annealed copper bars of rectangular cross section, with insulators.

2.2 IDENTIFICATION AND LABELING

- A. Grounding conductors shall be marked with tie wrap style cable markers.

2.3 ACCEPTABLE MANUFACTURERS

- A. Erico Products, Inc
- B. Appleton Electric Company
- C. Kearney
- D. O-Z/Gedney Electric Company



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- E. Racco, Inc.
- F. Thomas & Betts, Electrical

PART 3 - EXECUTION

3.1 GENERAL

- A. Purpose of the Grounding System.
 - 1. Adequate path for ground fault currents.
 - 2. Safety to personnel from accidental electric shock hazards.
 - 3. Prevention of hazardous discharge of static electricity.
- B. Whether or not indicated on the Contract Drawings, provide continuous ground path for all electrical circuits from point of utilization back to source through ground wires, bonded metallic conduit runs, grounded cable trays, and related items.
- C. Miscellaneous Equipment: Provide complete grounding for metal lighting standards, supports for elevated metal floors, steel framework of the building, elevators, and other equipment as indicated on the Contract Drawings or required by applicable standards.
- D. Furnish and install electrical grounding systems as indicated on the Construction Documents and as specified herein.
- E. Grounding systems shall be installed in accordance with the requirements of the local authorities, NEC Article 250, and subject to the review of the Commissioner.
- F. All ground conductors and bonding jumpers shall be stranded copper installed in conduit. All ground conductors shall be without joints and splices over its entire length.
- G. Each system of continuous metallic piping and ductwork shall be grounded in accordance with the requirements of the NEC Article 250.
- H. Mechanical equipment shall be bonded to the building equipment grounding system. This shall include but is not limited to fans, pumps, chillers, etc.
- I. Metal raceways, cable trays, cable armor, cable sheath, enclosures, frames, fittings and other metal noncurrent-carrying parts that are to serve as grounding conductors shall be effectively bonded where necessary to assure electrical continuity and the capacity to conduct safely any fault current likely to be imposed on them. Any nonconductive paint, enamel, or similar coating shall be removed at threads, contact points, and contact surfaces or be connected by means of fittings so designed as to make such removal unnecessary.



3.2 RECEPTACLES

- A. Receptacles shall be grounded to the outlet box by means of a bonding jumper between the outlet box and the receptacle grounding terminal.

3.3 OUTDOOR EQUIPMENT

- A. Outdoor enclosures shall be connected with No. 2 bare copper (minimum) cable installed not less than 24 inches below grade, connecting to the required ground rods. Fence and equipment connections shall be bare copper No. 2. Fence shall be grounded at each gate post and corner post. Each gate section shall be bonded to the fence post through a 1/8-inch by one-inch flexible braided copper strap and approved clamps.

3.4 CONCENTRIC KNOCKOUTS

- A. Provide grounding type bushings for conduits terminated through multiple concentric knockouts not fully knocked out on inside of the panelboards. Ground bushing with No. 12 AWG copper to panelboard ground bus.

3.5 TOGGLE SWITCHES

- A. Provide grounding clip on each toggle switch. Mount over device mounting strap such that contact is made between mounting strap, faceplate and outlet box.
- B. Provide devices with ground screw where required by local authorities and bond this with No. 10 AWG conductor to the associated outlet box.

3.6 GROUNDING METHODS

- A. The metal frame of the building, where effectively grounded.
- B. All bonding jumpers for the above grounding systems shall be sized in accordance with the NEC Article 250.

3.7 INSTALLATION

- A. Ground Conductors
1. Route along the shortest and straightest paths possible, except as otherwise indicated. Avoid obstructing access or placing conductors where they may be subjected to strain, impact, or damage.
 2. Size as shown on the Contract Drawings or as required by NEC Table 250-95.
 3. Where ground conductors are required, install insulated copper ground conductors in steel conduit or as indicated.
 4. Where ground conductors are protected by metallic conduit, bond the conductor to the conduit at both ends.



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5. Connect ground conductors to appropriate ground buses (as in switchboards and distribution panelboards, etc.).

B. Conduit Attachment to Electrical Equipment

1. Ground conduits to metal framework of the electrical equipment with double locknuts or grounding bushings and bonding jumpers unless otherwise noted.
2. Install bonding jumpers at all electrical equipment to provide continuous ground return path through the metallic conduit system.
3. Install NEC approved bonding jumpers across expansion fittings between conduit sections for ground path continuity.
4. Where motors or other utilization equipment are connected to the electrical system with flexible conduit, the conduit shall be equipped with a ground conductor.

C. Cable Trays and Wiring Troughs

1. Use metallic raceway system for principal ground return path.
2. Bond together wiring troughs containing power circuits and tie to ground bus at the switchboards, panelboards; install minimum No. 4/0 AWG copper conductors for bonding between cable systems and switchboards ground buses.
3. Install a minimum No. 2 AWG insulated copper conductors for bonding between cable support system and conduit dropouts, service equipment or cabinets.
4. Apply antioxidant compound to contact surfaces for all bonding connections to cable trays.
5. Install bonding jumpers across hinged joints.

D. Receptacles and Switches

1. Install bonding jumpers between the outlet box and receptacle grounding terminal except where contact device or yoke is provided for grounding purposes.

E. Wireways

1. Install grounding jumpers for bonding between wireways and other panelboards, conduits, switchboards, and at any other point where a solid connection would otherwise not be provided in supporting the system to insure a continuous ground path.



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F. Panelboards

1. Install bonding jumpers inside all panelboards to bond the feeder conduit to panelboards, except ground panelboards containing branch circuits each having less than 150 amperes current carrying capacity, with two standard locknuts and bushings, one inside and one outside, run up wrench tight.

G. Sheet Metal Boxes

1. Install bonding jumpers inside all sheet metal boxes containing one or more feeders with current carrying capacity of 150 amperes or greater, to bond one conduit with another.
2. Ground boxes containing branch circuits only or feeders each less than 150 amperes current carrying capacity, with two standard locknuts and bushings, one inside and one outside, run up wrench tight. two standard locknuts and bushings, one inside and one outside, run up wrench tight.
3. Install bonding in sheet metal boxes in systems over 600 volts, regardless of current carrying capacity.

END OF SECTION



SECTION 26 05 33

RACEWAYS AND BOXES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. The following documents apply to all required work for the Project:

1. The Contract Drawings,
2. The Specifications,
3. The General Conditions,
4. The Addendum, and
5. The Contract [City of New York Standard Construction Contract].

1.2 DESCRIPTION

A. Provide raceways, fittings, boxes, enclosures, and cabinets for electrical wiring in accordance with the Contract Documents.

1.3 WORK INCLUDED

- A. Rigid Steel Conduit.
- B. Armor Clad (AC) Cable.
- C. Flexible Metal Conduit.
- D. Liquid-Tight Flexible Metal Conduit.
- E. Conduit Fittings.
- F. Wireways and Auxiliary Gutters.
- G. Outlet, Junction and Pull Boxes.
- H. Identification Labels.

1.4 SUBMITTALS

A. Shop Drawings

1. Full erection drawings where wireways and/or auxiliary gutters are employed. Drawings shall include plan views, elevations, size of wireways, type and quantity of conductors proposed to be installed therein, etc.



2. Indicate duct banks on multi-trade coordinated shop drawings.

B. Product Data

1. Submit dimensioned detailed drawings for boxes exceeding 24 inches in any one (1) dimension.
2. Submit manufacturer's catalog data for all raceways, fittings, enclosures, cabinets, floor boxes and accessories.

1.5 QUALITY ASSURANCE

- A. Except as modified by governing codes and by the Contract Documents, comply with the latest applicable provisions and latest recommendations of the following:

1. Rigid Steel Conduit:
 - a. U.L. Standard 6.
 - b. ANSI C80-1.
 - c. Federal Specification WW-C-581E.
2. Armor Clad Cable:
 - a. U.L. Standard 4.
 - b. Federal Specification J-C-30B.
 - c. NEC Article 333.
3. Flexible Metal Conduit:
 - a. U.L. Standard 1.
4. Liquid-Tight Flexible Metal Conduit:
 - a. U.L. Standard 360.
5. Wireways and Auxiliary Gutters:
 - a. U.L. Standard UL-870.

PART 2 - PRODUCTS

2.1 RACEWAYS

A. Rigid Steel Conduit

1. Rigid steel conduit shall be heavy wall, galvanized type.



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B. Armor Clad Cable

1. Conductors rated at 90°C as specified elsewhere herein, uninsulated ground wire, moisture and fungi resistant fillers, and an interlocking steel armor shield.

C. Flexible Metal Conduit

1. Single strip, continuous, flexible interlocked double-wrapped steel, galvanized inside and outside forming smooth internal wiring channel.

D. Liquid-Tight Flexible Metal Conduit

1. Same as flexible metal conduit except with tough, inert watertight plastic outer jacket.

E. Acceptable Manufacturers

1. Wheatland
2. Allied Tube
3. Carlon.

2.2 CONDUIT FITTINGS

A. Rigid Steel Conduit

1. Threaded type fittings.

B. Armor Clad Cable

1. Malleable iron or die-cast zinc with insulating bushing.

C. Flexible Metal Conduit

1. Compression-type metal fittings.

D. Liquid-Tight Flexible Metal Conduit

1. Cast malleable iron body and gland nut, cadmium plated with one-piece brass grounding bushings which thread to interior of conduit. Spiral molded vinyl sealing ring between gland nut and bushing and nylon insulated throat.

E. Acceptable Manufacturers

1. Same as those listed for raceways.

2.3 WIREWAYS AND AUXILIARY GUTTERS

- A. Wireways and gutters shall be of sizes and shapes indicated on the Contract Drawings and as required to meet the field conditions. Equipment shall be sheet metal, with enamel finish, NEMA 250 rated.



- B. Provide all necessary elbows, tees, connectors, adaptors, etc.
- C. Provide hinged cover secured with captive screws.
- D. Wire retainers shall be provided not less than twelve (12) inches on center.
- E. Acceptable Manufacturers
 - 1. Square D
 - 2. Wiremold/Legrand
 - 3. Hubbell

2.4 OUTLET, JUNCTION AND PULL BOXES

- A. Cast Type Conduit Boxes, Outlet Bodies, and Fittings
 - 1. For rigid steel conduit, ferrous alloy box with inside threaded hubs.
 - 2. For electrical metallic tubing, ferrous alloy box with compression or inside threaded hubs with adapter.
 - 3. Covers: Cast or sheet metal unless otherwise required.
 - 4. Tapered threads for hubs.
- B. Galvanized Pressed Steel Outlet Boxes
 - 1. General: Pressed steel, galvanized or cadmium-plated, minimum of 4" octagonal or square with galvanized cover or extension ring as required.
 - 2. Concrete Box: 4" octagon with removable backplate and 3/8" fixture stud, if required. Depth of box shall allow for a minimum of 1" of concrete to be poured above the backplate.
 - 3. Switch and Receptacle Box, Indoors: Nominal 4" square, 1½" or 2-1/8" deep as required, with raised cover unless otherwise indicated on the Contract Drawings.
 - 4. Lighting Fixture Box:
 - a. 4" octagon with 3/8" fixture stud.
 - b. For suspended ceiling work, 4" octagon with removable backplate where required, and two (2) parallel bars for securing to cross-furring channels and extend flexible metal conduit to each fixture.
- C. Sheet Steel Boxes Indoors
 - 1. No. 12 USS gauge sheet steel for boxes with a maximum side less than 40 inches, and a maximum area not exceeding 1,000 square inches; riveted or welded 3/4 inch flanges at exterior corners.



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2. No. 10 USS gauge sheet steel for boxes with a maximum side 40 to 60 inches, and a maximum area 1,000 to 1,500 square inches; riveted or welded 3/4 inch flanges at exterior corners.
 3. No. 10 USS gauge sheet steel riveted or welded to 1½" by 1½" by ¼" welded angle iron framework for boxes with a maximum side exceeding 60 inches and more than 1,500 square inches in area.
 4. Covers:
 - a. Same gauge steel as the box.
 - b. Subdivided single covers so no section of the cover exceeds 50 pounds.
 - c. Machine bolts, machine screws threaded into tapped holes or sheet metal screws as required; maximum spacing of 12 inches.
 5. Paint: Rust inhibiting primer; ANSI No. 61 light gray finish coat.
- D. Pull and Splice Boxes, Outdoors
1. Aluminum reinforced, with removable covers secured by stainless steel machine screws.
- E. Outlet, Junction and Pull Boxes Acceptable Manufacturers:
1. Cooper Industries
 2. Appleton Electric Company
 3. Erickson Electrical Equipment Co.
 4. Hoffman
 5. Hubbell
 6. OZ Gedney
 7. RACO
 8. Thomas & Betts
 9. Wiremold/Legrand
 - a. Dual service round floor box with ¾" and 1½" conduit hubs:
 - (1) Hubbell
 - (2) Thomas & Betts
 - (3) Wiremold/Legrand



2.5 IDENTIFICATION LABELS

- A. Plasticized Cloth
 - 1. Non-conductive.
 - 2. Waterproof.
 - 3. Capable of withstanding continuous temperatures of 235°F and intermittent temperatures to 300°F.
 - 4. Overcoating for protection against oil, solvents, chemicals, moisture, abrasion and dirt.
- B. Heavy, thermo-resistant industrial grade adhesive for adhesion of label to any surface without curling, peeling, or falling off.
- C. Legends: Sharp, bold-face, two (2) inch black letters on "Alert" orange background.
- D. Label Designations, Nominal System Voltages
 - 208 volts
- E. Acceptable Manufacturers
 - 1. W.H. Brady Company
 - 2. Thomas & Betts Corporation
 - 3. DYMO

PART 3 - EXECUTION

3.1 APPLICATION OF RACEWAYS

- A. The following applications must be adhered to. Raceways not conforming to this listing must be removed and replaced with specified material at no additional expense.

Raceway Types	Applications
Rigid Steel Conduit	Shall be used for all conduits shown on contract documents unless otherwise noted.
E.M.T.	Shall not be used.
Armor Clad Cable	Lighting and receptacle branch circuits concealed in dry hollow spaces of a building. May not be used in corridors, places of assembly, or where prohibited by Code.



Raceway Types	Applications
Flexible Metal Conduit	Use in dry areas for connections to lighting fixtures in hung ceilings, connections to equipment installed in removable panels of hung ceilings; at bus duct takeoffs; at all transformer or equipment raceway connections where sound and vibration isolation is required.
Liquid-Tight Flexible Metal Conduit	Use in areas subject to moisture where flexible metal conduit is unacceptable, at connections to all motors, and all raised floor areas.
Wireways and Auxiliary Gutters	Where indicated on the Contract Drawings and as otherwise specifically required.

3.2 RACEWAY SYSTEMS IN GENERAL

- A. Provide separate raceways for all wiring systems, including security, data, paging, low voltage et al. All 480Y/277 volt wiring must be kept independent of 208Y/120 volt wiring. Emergency system wiring must be kept independent of the normal system wiring. Provide grounding conductor within all circuits. Minimum size 3/4-inch for home runs and 1-inch minimum for power distribution. Wiring of each type and system must be installed in separate raceways.
- B. Install capped bushings on the raceways as soon as they are installed and remove only when cables are pulled. Securely tie embedded raceway in place prior to embedment. Raceways installed below or in floor slabs must extend a minimum of four (4) inches above the finished slab to the first connector. Lay out work in advance to avoid excessive concentrations of multiple raceway runs.
- C. Locate raceways so that the strength of structural members are unaffected and they do not conflict with services of other trades. Install 1-inch or larger raceways in or through structural members (beams, slabs, etc.) only when and in a manner accepted by the Commissioner. Draw up couplings and fittings full and tight. Protect exposed threads from corrosion with one (1) coat of zinc chromate after installation.
- D. Provide raceway installation (with appropriate seal-offs, explosion-proof fittings, etc.) in special occupancy area, as required. Provide conduit seal-offs where portions of the interior raceway system pass through walls, ceiling or floors which separate adjacent rooms having substantially different maintained temperatures, as in refrigeration or cold storage rooms.
- E. Provide labeled pull wire in all spare or empty raceways. Allow five (5) feet of slack at each end and in each pull box. Tag both ends of the cable denoting opposite and termination location with black india ink on flameproof linen tag.
- F. Above Grade: Defined as area above the finished grade for the building exterior and above the top surface of any slabs (or other concrete work) on grade for the building interior.
 1. Install concealed except at surface cabinets and for motor and equipment connections in electrical and mechanical rooms. Install a minimum of six



(6) inches from flues, steam pipes, or other heated lines. Provide flashing and counter-flashing for waterproofing of raceways, outlets, fittings, etc., which penetrate the roof. Route exposed raceways parallel or perpendicular to the building lines with right-angle turns and symmetrical bends. Run concealed raceways in direct line and, where possible, with long sweep bends and offsets. Maximum length of six (6) feet for flexible metal conduit. Each section of flexible metal conduit shall contain bonding ground connector bonded at each end and sized as required. Provide connectors with insulating bushings. Provide sleeves in the forms for new concrete walls, floor slabs and partitions for passage of the raceways. Waterproof sleeved raceways where required.

2. Provide raceway expansion joints for exposed and concealed raceways with necessary bonding ground conductor at building expansion joints and between buildings or structures and where required to compensate for raceway or building thermal expansion and contraction. Provide expansion fittings every 200 feet of conduit.
3. Provide one (1) empty 3/4 inch raceway for each three (3) spare unused poles or spaces of each flush-mounted panelboard. Terminate empty 3/4 inch conduits in a junction box, which after completion, is accessible to facilitate future branch circuit extension. Provide pull lines in each raceway.

- G. Install no raceway in the concrete slab except with the permission of the Commissioner and written consent of the Owner. Maximum conduit sizes embedded in structural concrete slabs:

Raceway Size	Min. Thickness of Concrete Slab
3/4 in.	4½ in.
1 in.	5 in.

1. Do not install raceways 1¼ inch size and larger in structural concrete slabs.
2. In no case will the installation of raceways be permitted to interfere with proper placement of principal reinforcement.
3. Place raceways in the structural slabs between the upper and lower layers of reinforcing steel. Careful bending of the conduits is required.
4. Space the raceways embedded in concrete slabs not less than eight (8) inches on centers and as widely spaced as possible where they converge at panels or junction boxes.
5. Install raceways running parallel to slabs supports, such as beams, columns and structural walls, not less than 12 inches from such supporting elements.
6. Secure saddle supports for conduit, outlet boxes, junction boxes, inserts, etc. with suitable adhesives during concrete pour of the slab to prevent displacement.



3.3 WIREWAYS AND AUXILIARY GUTTERS

- A. Place wireways installed in hung ceilings such that the covers will hinge upward from the side.

3.4 OUTLET, JUNCTION, AND PULL BOXES

- A. Provide outlet, junction, and pull boxes as indicated on the Contract Drawings and as required for the complete installation of the various electrical systems, and to facilitate proper pulling of the cables. Size the junction boxes and pull boxes per the NEC. Size the boxes on any empty conduit systems as if containing conductors of No.4 AWG.
- B. The exact location of outlets and equipment is governed by the structural conditions and obstructions, or other equipment items. When necessary, relocate outlets so that when fixtures or equipment are installed, they will be symmetrically located according to the room layout and will not interfere with other work or equipment. Verify final location of outlets, panels equipment, etc., with the Architect prior to installation.
- C. Back-to-back outlets in the same wall, or "thru-wall" type boxes are not permitted. Provide 12-inch minimum spacing for outlets shown on opposite sides of a common wall to minimize sound transmission.
- D. Fit outlet boxes in finished ceilings or walls with appropriate covers, set flush with the finished surface. Where more than one (1) switch or device is located at one (1) point, use gang boxes and covers unless otherwise indicated. Sectional switch boxes or utility boxes are not permitted. Provide tile box or 4 inch square box with tile ring in masonry walls not plastered or furred. Where drywall material is utilized, provide plaster ring. Provide outlet boxes of type and size suitable for the specific application. Where outlet boxes contain two (2) or more 277 volt devices, or where devices occur of different applied voltages, or where normal and emergency devices occur in the same box, provide suitable barrier(s).
- E. All outlet and device box depths shall have sufficient depth to prevent damage to the conductors when devices or utilization equipment are installed as intended in the box.
- F. Types of Boxes and Fittings for Various Locations

Location	Type
Outlet	Galvanized pressed steel
Outlet exposed to moisture or outdoors	Cast type conduit fitting
Splice	Galvanized pressed steel
Splice exposed to moisture or outdoors	Cast type conduit fitting or sheet metal (4½" x 5" x 3" minimum)
Pull or Junction	Cast type conduit fitting or sheet metal (4½" x 5" x 3" minimum)
Pull or Junction - Outdoors	Aluminum (4½" x 5" x 3" minimum)



Location	Type
Terminal	Sheet steel (6" x 6" x 3" minimum)
Terminal - Outdoors	Aluminum (6" x 6" x 3" minimum)

G. Pull Box Spacing

1. Provide pull boxes so no individual conduit run contains more than the equivalent of four (4) quarter bends (360° total).
2. Conduit Sizes 1¼" and Larger:
 - a. Provide boxes to prevent cable from being excessively twisted, stretched or flexed during installation.
 - b. Provide boxes so that maximum pulling tensions do not exceed the cable manufacturer's recommendations.
 - c. Provide support racks for boxes with multiple sets of conductors so that the conductors do not rest on any metal work inside the box.
3. Conduit Sizes 1 Inch and Smaller, provide boxes at every (Maximum Distances):

150 feet	straight runs
100 feet	runs with one (1) 90° bend or equivalent
75 feet	runs with two (2) 90° bends or equivalent
50 feet	runs with three (3) or (4) four 90° bends or equivalent.

H. Sheet Steel Boxes

1. Boxes shall be sized to permit pulling, racking and splicing of the cables (if not indicated on the Contract Drawings). They shall be sized to avoid exceeding the manufacturer's minimum bending radius recommendations for the conductors.
2. Provide access for the removal and replacement of the conductors, splices and equipment.
3. Minimum Dimensions of Boxes in Runs of 1½" or Larger Conduit:
 - a. Straight Pulls: Size length eight (8) times nominal diameter of the largest conduit.
 - b. Angle or U-Pulls: Size such that the distance between the conduit entry and the opposite wall of box is six (6) times the nominal diameter of the largest conduit.
4. Covers: Fasten to the flange or framework of the box with machine bolts, machine screws threaded into tapped holes or sheet metal screws as required.



5. Plug any open knockouts not utilized.
- I. Pull and Splice Boxes, Outdoors
 1. Where size of the box is not indicated, size to permit pulling, racking and spicing of cables being installed.
 2. Braze ground connector suitable for copper cables to the inside of the box.
- J. Identification labels for all pull, splice and junction boxes in main feeder and subfeeder runs, shall indicate nominal system voltage:
 1. Apply labels after painting of any boxes, conduits, and surrounding areas are completed.
 2. Clean surfaces before applying labels; clean aluminum surfaces with solvent wipe.
 3. Apply labels on the cover and a minimum of one (1) fixed side; one (1) label visible from the floor where the boxes are installed exposed.

3.5 SLEEVES

- A. Where sleeves are required for the installation of electrical work passing through walls or floors, furnish and install under this Section of Specification unless indicated otherwise on the Contract Drawings. Use galvanized or black enameled rigid steel conduit or Schedule 40 black steel pipe. Do not use aluminum conduit. Where specific sizes are not indicated on the Contract Drawings, size sleeves shall provide $\frac{1}{2}$ inch clearance around the outside surface of the item for which installed. Cut flush with the wall surfaces and extend two (2) inches above the finished floor level or as indicated on the Contract Drawings. In mechanical rooms, extend sleeve four (4) inches above the finished floor level.
- B. For interior walls and for floors, pack space between the conduit, ground cable or similar items and sleeves to the full depth of the wall or slab thickness with fire stopping material to maintain the required rating.

END OF SECTION



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SECTION 26 05 48

VIBRATION ISOLATION AND SEISMIC RESTRAINTS FOR ELECTRICAL WORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project:
 - 1. The Contract Drawings,
 - 2. The Specifications,
 - 3. The General Conditions,
 - 4. The Addendum, and
 - 5. The Contract [City of New York Standard Construction Contract].

1.2 DESCRIPTION

- A. Provide vibration isolation and seismic restraints in accordance with the Contract Documents.
- B. Provide vibration isolation for dry type transformers at electrical connections to rotating or vibrating equipment.
- C. Provide seismic restraints for all electrical and fire alarm systems and equipment.

1.3 QUALITY ASSURANCE

- A. Vibration isolators and seismic restraints shall be of the same manufacturer.
- B. Seismic restraint external force acceleration criteria shall be 1.0 G for life safety equipment (emergency power system, fire alarm system, and equipment connected to the emergency power system). External force acceleration criteria shall be 0.5 G for non-life safety equipment.

1.4 STANDARDS

- A. SMACNA Guidelines for Restraint of Mechanical Equipment.
- B. Requirements for NYC seismic code: 1.0 g acceleration.
- C. NFPA 101 – Life Safety Code.

1.5 SUBMITTALS

- A. Manufacturer's product data sheets and installation instructions for each vibration isolator and seismic restraint.



- B. Plan and elevation diagrams showing equipment, points of attachment, vibration isolators, seismic restraints, mounting methods, and hardware types and sizes.
- C. Seismic restraint calculations. Seismic restraint calculations shall be certified by a Professional Structural or Civil Engineer registered in the State of New York.
- D. Certified field inspection report.

1.6 FIELD INSPECTION

- A. Upon completion of the installation, the manufacturer's local representative shall field inspect the installation and submit a report verifying the completeness and performance of the installation. Contractor shall submit a report to the Engineer, including the manufacturer's representative's final report, indicating all isolation reported as properly installed or requiring correction, and include a report by the Contractor on steps taken to properly complete the isolation work.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

- A. Amber-Booth Company, Inc; Mason Industries, Ace Mountings Co., Inc.; Vibration Eliminator Co., Inc., Kinetics Noise Control Inc.

2.2 VIBRATION ISOLATION AND SEISMIC RESTRAINTS

- A. General
 - 1. Devices installed outdoors shall be weatherproof; steel components shall be hot dipped galvanized, hardware shall be cadmium plated, and springs shall be neoprene coated.
 - 2. Spring diameters shall be no less than 0.8 of the compressed height of the spring at rated load.
 - 3. Springs shall have an additional minimum travel to solid equal to 50% of the rated deflection.
- B. Mounting Method Type A
 - 1. Floor mounted captive spring isolators for seismic and restrained service.
 - 2. Snubbing shall take place in all modes with adjustment to limit upward, downward, and horizontal travel to a maximum of ¼ inch before contacting snubbers.
 - 3. Leveling bolts for rigid bolting to equipment.
 - 4. Ports for spring inspection.
 - 5. Minimum of ¾" thick neoprene pad between concrete housekeeping pad and bottom of isolator.



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6. Mason Industries type SLR.
- C. Mounting Method Type B
1. Hanger rod spring isolators.
 2. 45° slack seismic restraint cables.
 3. Neoprene spring cup with a projecting bushing to prevent steel to steel contact.
 4. Steel retainer box encasing the spring and neoprene spring cup.
 5. Rod shall be able to swing 30° before contacting resilient bushing.
 6. Mason Industries type HD neoprene hanger and Type SCB seismic cable brace.
- D. Mounting Method Type C
1. Floor mounted bridge bearing neoprene mounts with all directional seismic capability.
 2. Two separated and opposing molded bridge bearing neoprene elements contained in a ductile iron casting.
 3. Mounting holes in bottom plate for bolting to concrete housekeeping pad.
 4. Mason Industries type BR.

PART 3 - EXECUTION

3.1 GENERAL

- A. Installation shall be in accordance with seismic restraint calculations and manufacturer's installation instructions.
- B. Verify that mounting methods provide the required vibration isolation and seismic restraint and that there are no vibration short circuits.
- C. Conduit connected to rotating or vibrating equipment shall be flexible metal conduit or liquid tight flexible conduit. Any conduits that are supported by the building shall have resilient hangers or supports to isolate vibrations.

END OF SECTION



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SECTION 26 24 16

PANELBOARDS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. The following documents apply to all required work for the Project:

1. The Contract Drawings,
2. The Specifications,
3. The General Conditions,
4. The Addendum, and
5. The Contract [City of New York Standard Construction Contract].

1.2 DESCRIPTION

A. Provide panelboards in accordance with the Contract Documents.

1.3 WORK INCLUDED

- A. Panelboards.
- B. Circuit Breakers.
- C. Fusible Switches.

1.4 SUBMITTALS

A. Shop Drawings

1. Show main devices and lug sizes; branch circuit device sizes and arrangement; bus ampacities; voltage, ampere, withstandability and short circuit rating of the panelboard and overcurrent protective devices; dimensions and construction; gutter and backbox dimensions; nameplate and legend; protective coating; and all pertinent details of panel, enclosure, cover, and method of securing cover and lock.
2. Include fully detailed and dimensioned plan elevations of each panel at a minimum of 1/4" scale.
3. Submit plans indicating maximum dimensions for panelboards including clearances between the panelboards and adjacent surfaces and other items to meet the NEC.



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B. Product Data

1. Submit manufacturer's catalog data for all circuit breakers and switch assemblies.
2. Submit certification of U.L. compliance to integrated short circuit withstand requirements.
3. Short circuit and coordination study.

1.5 QUALITY ASSURANCE

A. Except as modified by governing codes and by the Contract Documents, comply with the latest applicable provisions and recommendations of the following:

1. Panelboards:
 - a. U.L. Standards #50 and #67.
 - b. Federal Standard W-P-115A Type II, Class 1.
 - c. NEMA Standard PB-1.
 - d. CSA Standard C22.2 No. 29-M.
 - e. NFPA 70
2. Circuit Breakers:
 - a. U.L. Standard #489.
 - b. Federal Standard W-C-375B
 - c. NEMA Standard AB-1.
 - d. CSA Standard C22.2 N. 5-M91.
3. Fusible Switches:
 - a. Federal Standard W-S-865C.
 - b. U.L. Standard 98.
 - c. NEMA KS-1.
4. Ground Fault Circuit Interrupters (GFCI):
 - a. UL 943.
5. Arc Fault Circuit Interrupter (AFCI)
 - a. UL 1699



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B. Testing Agency Qualifications

1. Member company of NETA and NRTL

PART 2 - PRODUCTS

2.1 **PANELBOARDS**

- A. Provide panelboards consisting of an assembly of branch circuit switching and protective devices (circuit breakers, switch and fuse units, or combination thereof) mounted inside a dead front enclosure. All panelboards shall be door-in-door construction. Provide the number and size of these branch circuit devices as indicated by the circuiting, on the Contract Drawings, and in the Schedules. Locations of circuit breakers shall be as indicated in the schedules.
- B. Provide the following modifications and additional equipment as shown on the Contract Drawings:
 1. Main circuit breakers.
 2. Ground fault circuit interrupting (GFCI) circuit breakers.
 3. Split buses.
 4. Integral remote control switches.
 5. Double lugs for multiple cables or for future provisions.
 6. Oversized gutters.
- C. Interiors
 1. Provide a rigid removable assembly of copper bus bars and interchangeable bolted branch circuit devices.
 2. Material: Hard-drawn copper, 98 percent conductivity.
 - a. Aluminum bus bars shall have sufficient cross sectional area to provide a current density of 750A per square inch.
 - b. Copper bus bars shall have sufficient cross sectional area to provide a current density of 1000A per square inch.
 3. Bus bars drilled to permit branch circuit devices of all sizes and number of poles to be interchangeable and installed in any spare space of sufficient size, without disturbing adjacent units; without removing main bus or branch circuit connectors and without machining, drilling, or tapping in the field.
 4. Bus shall be arranged in sequence or distributed phasing so that multi-pole circuit breaker can replace any group of single circuit breakers of the same size.



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5. Provide neutral bus in each panelboard.
 6. Neutral bus shall be 200% rated when supplied from an oversized neutral feeder. Neutral bus shall be capable of terminating one conductor per panelboard pole position minimum.
 7. Provide ground bus in each panelboard. On 208Y/120 volt panelboards provide isolated ground bus when served from a feeder that includes an isolated ground conductor. Each isolated ground bus shall be capable of terminating one conductor per panelboard pole position minimum.
- D. Enclosure
1. Enclosure shall be provided per DDC General Conditions.
 2. Provide a bolt-on ground connector to inside of enclosure.
 3. Enclosure shall be flush mounted in finished areas and where indicated. Enclosure shall be surface mount elsewhere.
 4. Gutter Extension and Barrier: Same gauge and finish as panelboard enclosure; integral with enclosure body. Arrange to isolate individual panel sections.
- E. Front
1. Doors shall be provided on all lighting and power panels. On switch and fuse panelboards doors over overcurrent devices shall not be provided unless rated for same.
 2. Doors shall be heavy code gauge steel as required to maintain panel face flat.
 3. Front shall be held closed with trim clamps.
 4. Front door frame shall be hinged with captive screws. Circuit breaker section door shall be hinged.
 5. Provide typewritten directory for total number of poles. Install behind plastic transparent protective cover on the panel frame.
 6. Provide approved lock (Yale #47 key). All panels shall be keyed alike. Furnish four (4) sets of matching keys to the City of New York.
 7. Provided welded angle rest at the bottom of the door to facilitate cover installation.
 8. Doors over 48" in height shall have auxiliary fasteners at top and bottom of door in addition to lock and catch.
 9. Enclosure shall be factory finished in ANSI 61 gray enamel or two coats of air-drying lacquer over a rust inhibiting primer.



F. Multiple Section Panelboards

1. Each section of multiple section panelboards shall be the same height.
2. Multiple sections shall each contain the same number of poles (e.g., 72 poles equals 2-36 pole panels).
3. When a multi-panel is served from a transformer, the main circuit breaker shall be provided in the first section to adequately protect the transformer secondary.

G. Terminal Lugs

1. Terminal lugs shall be bolted type, labeled for copper conductors.
2. Main lugs shall be located properly at top or bottom, depending where main feeder enters.
3. Lugs shall be rated for 75°C terminations.

H. Electrical Ratings

1. Panelboards shall be rated 208Y/120 volts, 3 phase, 4 wire, full neutral with ampacities as indicated on the Contract Drawings (unless otherwise noted).
2. Panelboards shall be fully rated for the available short circuit current indicated on the Contract Drawings. Each panelboard as a complete and finished product shall receive a single U.L. approved integrated equipment rating by the manufacturer. The integrated equipment short-circuit rating shall certify that all equipment is capable of withstanding the thermal and magnetic stress of a fault equal to the value specified on the Contract Drawings. Such rating shall be established by actual tests by the manufacturer on similar equipment. This certification shall be permanently affixed to each panelboard.
3. Where indicated, provide panelboards having a "service entrance" Type U.L. label with neutrals factory bonded to frame or enclosure.
4. Provide surge protective devices as indicated on the Contract Documents.

I. Circuit Breaker Devices

1. Circuit breakers shall be plastic molded case bolt on type with completely sealed enclosure and toggle type operating handle. Trip ampere rating and "ON/OFF" indication shall be clearly visible. Plug-in type circuit breakers shall not be permitted.
2. Circuit breakers shall be thermal-magnetic trip-free, trip-indicating, quick-make/quick-break, with inverse time delay characteristics. Single-handle and common tripping multi-pole breakers shall be provided.
3. Provide with silver alloy contacts with auxiliary arc-quenching devices.



4. Panelboard shall be of the type which will accept the field installation of shunt trip devices of 60 amperes or less on the branch devices.
5. Interrupting capacities shall be as indicated on the Contract Drawings. As a minimum, 208Y/120 volt devices shall be not less than 10,000 AIC.
6. For lighting circuits provide devices labeled "SWD" for switching purposes.
7. Provide with bolted type terminals U.L. listed for copper 75°C conductors.
8. Provide main breakers in panels served from transformers unless separate transformer secondary protection is provided. Main circuit breakers shall be provided in the first section only when multi-section panelboards are provided.
9. Each breaker or space unit shall be provided with an individual number.
10. Provide handle padlocking device for designated breakers.
11. For HVAC equipment provide U.L. listed "HACR" type devices.
12. Provide tie-bars on all single pole circuit breakers serving multi-wire branch circuits in compliance with NEC Article 210.4(B). The disconnecting means shall simultaneously disconnect all ungrounded conductors at the point where the branch circuit originates.
13. Should fixed in-feeds require more than one (1) branch circuit, all circuit breakers shall be equipped with tie-bars to allow all circuits to be disconnected during maintenance events.

J. Ground Fault Circuit Interrupters (GFCI)

1. Ground fault circuit interrupter branch circuit breakers shall be provided as indicated on the Contract Drawings. Circuit breakers shall be circuit interrupting which will operate manually for normal switching functions and automatically under overload, short circuit, and 0.005 amp line-to-ground fault conditions. The operating mechanism shall be entirely trip-free so that contact cannot be held closed against an abnormal overcurrent, short circuit, or ground fault condition. The device shall be bolt-on type with insulated case construction and shall be interchangeable with standard single pole breakers utilized in the panelboard.

K. Switch and Fuse Devices

1. Provide a quick-make/quick-break, horsepower rated, dead-front type. Each switch shall be a self-contained unit, externally operable from the front. Provision for padlocking handle in "OFF" position shall be provided.
2. Fuse and switch compartment shall be interlocked to prevent access to the fuse compartment until switch is thrown to "OFF" position. Interlock shall be intentionally releasable by externally applied tool to permit investigating switch and fuses under load.



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3. Switch units shall be interchangeable for replacement, without disturbing balance of distribution panelboard's operation.
4. Switches shall be equipped with rejection type clips for U.L. Class R fuses up to 600A, suitable for U.L. Class L fuses above 600A.
5. Switches shall reject fuses other than those specified.
6. Provide spare fuses as specified in the fuse specification section.

2.2 ACCEPTABLE MANUFACTURERS

- A. Electrotech
- B. All City Switchboard
- C. Lincoln Electric.

PART 3- EXECUTION

3.1 INSTALLATION

- A. All panels shall be mounted at a maximum height of six feet six inches to top unless otherwise noted.
- B. Surface type panels shall be mounted a minimum one inch off the wall on channels.
- C. Feed-through panels shall be connected to a main feeder by insulated parallel gutter taps. Full-size tap shall be provided for two (2) or more panels on a common feeder.
- D. Where flush mounted, the fire integrity of the wall in which it is installed shall be maintained.
- E. Branch circuit wires shall be neatly arranged and shall be tied together in each gutter with nylon pre-manufactured cable ties at four inch intervals.
- F. All knockouts removed and not utilized shall be plugged.
- G. Provide nameplate and fill out as-built typewritten panel directory.
- H. Provide grounding and bonding jumpers per the grounding specification section herein and as indicated on the Contract Drawings.
- I. All branch circuit conductors, within panelboards, shall be labeled with respective circuit number.
- J. Stub 3-1" empty conduits from each panelboard into the ceiling cavity above for future use.
- K. Coordinate layout and installation of panelboards and components with other construction that penetrates walls or is supported by them, including electrical and



other types of equipment, raceways, piping, encumbrances to workspace clearance requirements, and adjacent surfaces. Maintain required workspace clearances and required clearances for equipment access doors and panels.

3.2 TOUCH UP AND CLEANING

- A. All backboxes shall be vacuumed clean of debris after installation and prior to final payment.
- B. Scratch marks, etc., shall be touched up with matching paint.

3.3 OBSERVATIONS

- A. Panel fronts shall be removed when directed by the Commissioner for observation (either by floor, or by group of floors, or all panels on the project as required by the Commissioner) and reinstalled immediately thereafter the observations.

3.4 FIELD QUALITY CONTROL

- A. Manufacturer's Field Service: Retain a factory-authorized service representative to inspect, test, and adjust components, assemblies, and equipment installations, including connections.

3.5 FIELD QUALITY TESTING

- A. Perform the following field quality tests and visual inspections, in accordance with NETA Acceptance Testing Specifications.
 - 1. Exterior of the equipment.
 - 2. Interior of the cubicle.
 - 3. Interior bus/cable systems.
 - 4. Bus support insulators and spacing.
 - 5. Doors/panels/brackets.
 - 6. Door handles/locking bars/mechanisms.
 - 7. Instruments/relay covers.
 - 8. Control/metering transformers/instruments.
 - 9. Grounding/neutral bar installation correct per application.
 - 10. Wiring/terminal connections.
 - 11. Proper electrical clearances maintained.
 - 12. Complete circuit directories properly installed.
 - 13. Surge protection devices installed properly.



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14. Load current readings balanced per Code.
- B. Verify circuit breaker identification, sizing and operation in building distribution panelboards.
1. Compile a comprehensive listing of building distribution panelboards, as well as, their respective directories, feeder sizes and designation from where panels are served from.
 2. Compare equipment nameplate data with the Contract Drawings and specifications.
 3. Inspect circuit breaker for correct mounting.
 4. Inspect case for cracks or other defects.
- C. Verify that wire size is appropriate for breaker size.
1. De-energize each panelboard breaker while observing respective building loads served by the breaker.
 2. Re-energize each panelboard breaker verifying equipment is re-energized.
 3. Each tested breaker, when placed in the "OFF" position, breaks electrical power to the respective (labeled) building load.
 4. Each tested breaker, when placed in the "ON" position, supplies electrical power to the respective (labeled) building load.
 5. No visible and/or audible arcing present.
 6. There shall be no short circuits.
 7. Lugs shall all be pulled tight.
 8. Panelboards shall be clean and neat. Panelboard covers shall be reinstalled.
- D. Verify Circuit Loads on Main Distribution Panels.
1. Ensure main distribution panels have the proper breaker feeding each load.
 2. Compile a comprehensive listing of building distribution panelboards, as well as, their respective directories.
 3. Verify breaker matches breaker load.
 4. Check breaker balance phase-to-phase.
 5. Check line to ground resistance.
 6. Check setting on the breaker for trip to motor loads.



7. Verify settings and trip on larger breakers to match the calculated reports.
 8. Load shall not be higher than 80% of the breaker.
 9. Phases are properly balanced.
 10. No more than 0.005 ohm to ground.
- E. Submit all field quality test results.

3.6 SPARE MATERIALS

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
1. Keys: Two (2) spares for each type of panelboard cabinet lock.
 2. Circuit Breakers Including GFCI and Ground Fault Equipment Protection (GFEP) Types: Two (2) spares for each panelboard.
 3. Fuses for Fused Switches: Equal to 10 percent of the quantity installed for each size and type, but no fewer than three (3) of each size and type.
 4. Fuses for Fused Power-Circuit Devices: equal to ten (10) percent of the quantity installed for each size and type, but no fewer than three (3) of each size and type.

3.7 WARRANTY

- A. Provide a one (1) year warranty from the date of substantial completion.

END OF SECTION



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SECTION 26 27 26

WIRING DEVICES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project:
1. The Contract Drawings,
 2. The Specifications,
 3. The General Conditions,
 4. The Addendum, and
 5. The Contract [City of New York Standard Construction Contract].

1.2 DESCRIPTION

- A. Provide wiring devices in accordance with the Contract Documents.

1.3 WORK INCLUDED

- A. Switches.
- B. Receptacles.
- C. Wall Plates.

1.4 SUBMITTALS

- A. Submit manufacturer's catalog cuts and specifications for all types for each product indicated. Highlight exact model being proposed in the submittal.
- B. Submit samples for finish, color and texture as requested by the Commissioner.

1.5 QUALITY ASSURANCE

- A. Except as modified by governing codes and by the Contract Documents, comply with the latest applicable provisions and latest recommendations of the following:
1. Switches.
 - a. NEMA Standards WD-1 and WD-6.
 - b. Federal Specification Standard WS-896E.
 - c. U.L. 20.



2. Receptacles:
 - a. NEMA Standards WD-1 and WD-6
 - b. U.L. Standard 498
 - c. Federal Specification WC596-D.
 - d. U.L. 943 (GFCI receptacles).
 - e. U.L. 514 (Poke Through Assemblies)

- B. Obtain each type of wiring device through a single manufacturer, where available.

PART 2 - PRODUCTS

2.1 SWITCHES

- A. Switches shall be commercial specification grade, flush mounting, quiet-operating AC type, decora rocker type, heat-resistant plastic housing and self grounding metal strap. Provide silver alloy contacts. Switches shall be rated 20A at 120-277V and capable of full capacity on all lamp loads. Switches shall be design for side or back wiring with up to No. 10 AWG wire. Switches shall be rectangular (decorator) style in all areas.
- B. Provide single-pole, double-pole, 3-way, 4-way, pilot or keyed type switches, as indicated on the Contract Drawings or required.
- C. Switch with Pilot Light: Switches indicated with an illuminated rocker switch in the "OFF" position for visual load monitoring shall be provided as indicated on the Contract Drawings.
- D. Provide 3-position, momentary contact, center "OFF" type switches, which control lighting by way of a low voltage lighting control relays as indicated on the Contract Drawings.
- E. Provide illuminated type switches controlling lighting connected to emergency power – illuminated when switches are in the "OFF" position.
- F. The color of all normal devices shall be selected by the Commissioner.
- G. Acceptable Manufacturers
 1. Switches
 - a. Leviton
 - b. Hubbell
 - c. Bryant
 - d. Pass & Seymour/Legrand



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- e. Lutron
- 2. Dimmers
 - a. Lutron
 - b. Leviton
 - c. Pass & Seymour/Legrand

2.2 RECEPTACLES

- A. Receptacles shall be two-pole, three-wire, grounding, simplex or duplex NEMA 5-20R, rated for 20 amperes at 125 volt electrical alternating current as indicated on the Contract Drawings and ANSI standard type, commercial specification grade, with brass contacts that accepts a plug with two (2) parallel blades and one (1) grounding blade. Receptacles shall be equipped with terminals to accept up to No. 10 AWG conductors. Enclosures shall be heat-resistant plastic with nylon face and two (2) grounding screws. Provide break-off terminals for 2-circuit wiring. Provide rectangular decora style.
- B. Ground fault circuit interrupter (GFCI) receptacles shall interrupt ground leakage currents between 4-6 mA having a maximum circuit current of 20 amperes. Employ feed through or non-feed through devices as indicated, or required. Configuration shall be straight blade type NEMA 5-20R. Utilize 2 3/4" deep outlet boxes without any adaptors. Long life LED light shall be provided, within the receptacle. Device shall have a minimum nominal tripping time of 0.025 seconds.
- C. Provide commercial specification grade twist lock type receptacles as indicated on the Contract Documents.
- D. The color of all normal devices shall be selected by the Commissioner.
- E. Acceptable Manufacturers
 - 1. Receptacles:
 - a. Leviton
 - b. Hubbell
 - c. Bryant
 - d. Pass & Seymour/Legrand

2.3 WALL PLATES

- A. Provide wall plates for all receptacles, outlets, and switches of 430 stainless steel with satin finish, unless otherwise noted. When two (2) or more switches or devices are shown in one (1) location, provide a common wall plate.
- B. Provide cast aluminum metal plate with stainless steel spring loaded, gasketed, double flap lift cover to provide protection for the receptacle and plug when "IN



USE" for all exterior receptacles, those in mechanical rooms, those in garages, and where indicated on the Contract Drawings. These covers shall be labeled and listed as "extra duty" type.

- C. Provide lockable type covers where indicated on the Contract Documents.
- D. Acceptable Manufacturers
 - 1. By same manufacturer as device utilized.

PART 3 - EXECUTION

3.1 SWITCHES

- A. Install all switches vertically with the "ON" position on top, unless noted or specified otherwise.
- B. Where switches are indicated near doors, corner walls, etc., install not less than two (2) inches and not more than twelve (12) inches from the trim.
- C. Carefully coordinate locations of switches to insure locations are at the strike side of doors.
- D. Furnish and install an engraved legend for each switch that controls motors, equipment systems, etc., not located within the sight of the controlling switch.
- E. Install unshared neutral conductors on the line and load sides of the dimmers according to the manufacturers' written instructions.

3.2 RECEPTACLES

- A. Unless otherwise noted, mount receptacles vertically with U-shaped ground position at the top.

3.3 GROUND FAULT CIRCUIT INTERRUPTERS (G.F.C.I.)

- A. Swab all conduits clear of moisture.
- B. Do not combine G.F.C.I. protected circuits with other circuits in the same raceway; only one (1) G.F.C.I. circuit per raceway.
- C. Do not substitute G.F.C.I. circuit breakers for G.F.C.I. receptacles.
- D. All G.F.C.I. receptacles shall be installed in a readily accessible location per the NEC.

3.4 DEVICE GROUNDING

- A. Provide a No. 12 AWG grounding conductor from the device grounding terminal to the panelboard ground bus.



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- B. Provide a No. 12 AWG grounding conductor from the device grounding terminal to the outlet box.

3.5 INSTALLATION

- A. All devices shall be flush-mounted except as otherwise noted on the Contract Drawings.
- B. Locations
 - 1. Comply with layout drawings for general location.
 - 2. Relocate outlets obviously placed in a location or manner not suitable to the room finish.
 - 3. Avoid placing outlets behind open doors.
- C. Mounting heights and positions are specified in the Special Conditions specification section and as indicated on the Contract Drawings. Architectural drawings take precedence over heights and positions specified in the electrical specifications.
- D. Ganging of Switches: Provide steel barriers between ganged 277 volt switches of different phases between all ganged dimmers; and between normal and emergency sources..
- E. Fastening: Securely fasten the devices into the outlet boxes and attach appropriate wall plates.
- F. Testing
 - 1. After installing wiring devices and after circuiting has been energized, test for proper polarity, ground continuity, and other requirements indicated on the Contract Documents.
 - 2. Test GFCI operation with local fault simulation according to the manufacturer's instructions.
 - 3. Replace all malfunctioning devices with new and retest as specified above.
- G. All devices shall be provided with identification as indicated in the identification specification section.

3.6 WARRANTY

- A. Manufacturer's warranty: all equipment shall be warranted free of defects in materials and workmanship for a period of one (1) year from date of purchase.

END OF SECTION



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SECTION 26 28 13

FUSES (600 V AND LESS)

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The following documents apply to all required work for the Project:
1. The Contract Drawings,
 2. The Specifications,
 3. The General Conditions,
 4. The Addendum, and
 5. The Contract [City of New York Standard Construction Contract].

1.2 DESCRIPTION

- A. Provide 600 Volt and less fuses in accordance with the Contract Documents.

1.3 WORK INCLUDED

- A. Fuses.
- B. Spare Fuse Cabinets.

1.4 SUBMITTALS

- A. Shop Drawings
1. Submit dimensioned drawings of each spare fuse cabinet by type and size.
- B. Product Data
1. Provide complete set of let-through curves for each type of fuse.
 2. Submit listing of all types, sizes and quantity of fuses which will be installed including location of each.
 3. Submit listing of all spare fuses by types, sizes and quantities, which will be furnished for placement in the respective fuse cabinets.



4. Short circuit current analysis is based upon Bussmann fuse characteristics for let-through currents. If fuses by another manufacturer are proposed, provide appropriate fuse curves and let-through values which correspond to Bussmann values shown on the Contract Drawings. Submit comparative chart of fuse substitutions for review prior to acceptance of substitutions. Comparative chart shall include the following:
 - a. Cross reference of fuses to be used in place of Bussmann fuse type designation indicated on the Contract Drawings or specified herein.
 - b. Cross reference of let-through currents of the fuses to be used compared to the Bussmann fuses indicated on the Contract Drawings or specified herein (e.g., design let-through current of feeder point No. ____ on the Contract Drawings is ____ amperes. Let-through current for substitute fuse is ____ amperes.).

1.5 QUALITY ASSURANCE

- A. Except as modified by governing codes and by the Contract Documents, comply with the latest applicable provisions and latest recommendations of the following:
 1. U.L. Standard #198.
 2. U.L. Standard #977.
 3. NFPA 70, Article 100.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Mains, Feeders and Branch Circuits
 1. Circuits 601 to 6000 amperes shall be protected by Class L, Bussman System 300 Low Peak Yellow Time-Delay fuses, type KRP-C (amp) SP.
 2. Circuits 0 to 600 amperes shall be protected by Class RK1, Bussmann System 300 Low Peak Yellow dual element fuses, type LPN-RK (amp) SP for 250 volt applications and LPS RK (amp) SP for 600 volt applications.
 3. A minimum 2:1 ratio must be allowable between the ampere rating of the main fuse and that of the feeder fuse, and between the feeder fuse and branch circuit fuse to obtain selective coordination and minimize switch size.
 4. Metal end caps of fuses rated 61 through 600 amperes shall be electrically connected to the fuse blades to facilitate voltage testing during OSHA required lock out/tag out procedures.
 5. All fuses shall be of the same manufacturer.



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- B. Spares: Upon completion of the building, provide the Owner with spare fuses as indicated below:
1. 10 percent (minimum of 3) of each type and rating of installed fuses shall be supplied as spares.
 2. Spare fuse cabinets shall be provided to store the above spares. The cabinet shall be constructed of minimum .080 heavy duty aluminum, with baked ASA61 gray enamel paint. The cabinet door shall be equipped with a locking handle and cylinder lock. Mounting holes with key slots 16 inches on center shall be provided.
 3. Spare fuse cabinets shall be provided as a minimum in the following locations:
 - a. Each main normal and emergency rooms.
 - b. Each major mechanical equipment room.
- C. Labels
1. "Low-Peak Yellow" or equivalent notice labels to alert the end user of the engineered level of protection of the electrical equipment shall be field installed by the Electrical Contractor. They shall be obtained from the fuse manufacturer, marked with the proper fuse rating per the specifications and placed in a visible location in the enclosure.

2.2 ACCEPTABLE MANUFACTURERS

- A. Fuses
1. Cooper Bussmann
 2. Mersen
 3. Littelfuse
- B. Spare Fuse Cabinet
1. By fuse supplier.

PART 3 - EXECUTION

3.1 GENERAL

- A. Do not install fuses until equipment is ready to be energized.
- B. Provide all fuses except as otherwise noted. All fuses shall be new.
- C. Replace any fuses which are not functioning.



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- D. Labels: Install appropriate label supplied the by fuse manufacturer within each switch, motor starter, or panelboard door, or at location next to the fuse clips.
- E. Coordinate fuse ratings with HVAC, refrigeration, and plumbing equipment limitations for maximum fuse size prior to any installation.
- F. Arrange fuses so rating information is readable without removing fuses.

END OF SECTION



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SECTION 26 28 16

DISCONNECT SWITCHES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. The following documents apply to all required work for the Project:

1. The Contract Drawings,
2. The Specifications,
3. The General Conditions,
4. The Addendum, and
5. The Contract [City of New York Standard Construction Contract].

1.2 DESCRIPTION

A. Provide disconnect switches in accordance with the Contract Documents.

1.3 WORK INCLUDED

- A. Safety Switches (Fused and Non-Fused Types).
- B. Manual Control Switches.

1.4 SUBMITTALS

- A. Product Data
 1. Submit manufacturers' data for all disconnect switches, including dimensional data, ratings, fuse ratings and types, and cable terminal sizes.
 2. Identify motor or equipment served by each switch; indicate nameplate inscription.

1.5 QUALITY ASSURANCE

- A. Except as modified by governing codes and by the Contract Documents, comply with the latest applicable provisions and latest applicable recommendations of the following:
 1. U.L. Standards #98.
 2. NEMA Standard KS1.
 3. U.L. 20 and Federal Specification Test Standards for Toggle Switches.

PART 2 - PRODUCTS

2.1 SAFETY SWITCHES

- A. Provide heavy-duty, horsepower rated, single-throw knife switch with quick-make/quick-break mechanism, capable of full load operations. Switches shall meet NEMA and U.S. Government specifications for Class A switches.
- B. Provide with contact arc-quenching devices, such as magnetic blowouts or snuffing plates. Provide self-aligning switchblades with silver alloy contact areas, designed so that arcing upon making and breaking does not occur on final contact surfaces. Provide with high-pressure, spring-loaded contact. Switch parts shall be mounted on high-grade insulating base.
- C. Enclosure: Shall be NEMA 1 with hinged door and defeatable interlock when switch is in "ON" position, able to be padlocked in "ON" and "OFF" positions. Provide NEMA 3R (rain-tight) enclosure for exterior installations and NEMA 12 in warehouse and mechanical rooms.
- D. Size, fusing and number of poles shall be provided as shown on the Contract Documents or as required. Where fused, the switch shall be provided with U.L. listed rejection feature to reject all but Class R fuses. Provide horsepower rated switch to match motor load if size is not shown. Provide 3 pole plus solid neutral switches on four wire circuits and 3 pole switches on all other circuits, unless otherwise noted.
- E. Lugs shall be U.L. listed for copper conductors and be front removable.
- F. Provide six (6) pole switches for connection to motors with the following starter types:
 - 1. Non-reversing - two step - part winding - star connected.
 - 2. Non-reversing - full voltage - two speed separate winding.
 - 3. Non-reversing - full voltage - two speed single winding.
 - 4. Where otherwise required.
- G. Provide auxiliary contacts for switches where required or where indicated on the Contract Documents.

2.2 TOGGLE TYPE MANUAL CONTROL SWITCHES

- A. Provide switches which operate at their full rating with fluorescent, tungsten, and resistance loads and at 80% of their rated capacity with motor loads.
- B. Switches shall be heavy duty type and shall have:
 - 1. Arc-resisting bodies.
 - 2. Slow make-and-break mechanisms.



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3. Silver alloy contact buttons.
4. Side or back wiring with up to No. 10 AWG solid conductors.

2.3 ACCEPTABLE MANUFACTURERS

- A. Safety Switches
 1. Square 'D'
 2. Eaton/Cutler Hammer
 3. General Electric
 4. Siemens
- B. Toggle Type Manual Control Switches
 1. Square D
 2. Eaton/Cutler-Hammer
 3. General Electric
 4. Siemens

PART 3 - EXECUTION

3.1 APPLICATIONS

- A. Provide each motor over ½ HP with a horsepower rated safety-type disconnect switch.
- B. Provide each piece of equipment utilizing multi-phase power with a safety-type disconnect switch.
- C. Provide each piece of equipment utilizing single-phase power but protected at over 30 amperes with a safety-type disconnect switch.
- D. Equipment other than that mentioned above shall utilize toggle type manual control switch properly sized and rated for equipment it disconnects.
- E. Factory installed disconnect switches may be used to satisfy the above requirements.
- F. Disconnect switches serving the fire alarm system shall be painted RED.

3.2 MOUNTING

- A. Provide connections and wiring to and from each disconnect switch.



- B. Disconnect switches shall be mounted on adjacent wall or from the floor with independent supports. Switches shall not be mounted on the equipment housings.
- C. Switch enclosure shall be rigidly mounted and with proper alignment on building structure or steel supports with centerline of operating handle not more than 6 feet above finished floor unless otherwise required. Steel supports fabricated from standard rolled structural steel shapes or framing channel shall be used to provide one-inch separation between enclosure and building wall for vertical flow of air.
- D. Fuses shall be used as specified in this Division.
- E. Completed installation shall contain no extraneous openings.
- F. All viewing windows shall be cleaned.

3.3 IDENTIFICATION

- A. Provide nameplate identification of all disconnect switches in accordance with these specifications.

3.4 FIELD TESTING

- A. The following field acceptance tests shall be performed and test report submitted:
 - 1. Compile a comprehensive listing of building motor loads, including voltage, phase, HP, FLA, and location.
 - 2. Compare equipment nameplate data with the Contract Drawings and specifications.
 - 3. Command inductive motor loads to start through respective manual or computer controls.
 - 4. With individual motor loads running break power to the load with respective disconnect switch and/or safety stop.
 - 5. Wait until motor loads come to a complete stop.
 - 6. Re-connect power to the motor load with the respective disconnect switch and/or safety stop.
 - 7. Compare fuse size with motor full-load current rating to verify correct sizing.
 - 8. Verify that no visible or audible arcing is present.

END OF SECTION



SECTION 28 23 29

VIDEO SURVEILLANCE REMOTE DEVICES AND SENSORS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes

1. Video Surveillance Remote Devices.

1.2 REFERENCES

A. Federal Communications Commission (FCC) (www.fcc.gov)

1. FCC CFR 47 part 15 class B – Telecommunications – Radio Frequency Devices – Digital Device Emission.

B. Immunity

1. Emission and immunity of the signaling and telecommunications apparatus.
2. EN50130-4 (CE) (PoE, +12 VDC, 24 VAC) Alarm Systems, Part 4 – Electromagnetic Compatibility – Product Family Standard: Immunity Requirements for Components of Fire, Intruder and Social Alarm Systems

C. International Organization for Standardization (ISO)

1. 9001 – Quality System.

D. Safety

1. EN60950-1 - Information technology equipment. Safety. General requirements
2. UL60950-1 Second Edition - Information technology equipment. Safety. General requirements

E. Underwriters Laboratories, Inc. (UL) (www.ul.com)

1. UL certified

1.3 DEFINITIONS

- A. Infrared Illuminator: a light source working in the infrared frequency range is called an infrared illuminator.
- B. Automatic Gain Control (AGC): a process by which gain is automatically adjusted as a function of input or other specified parameter.



- C. Sensitivity: refers to the minimum level of light the sensor needs to generate an acceptable video picture, and is measured in lux.
- D. Day/Night (infrared sensitive): A camera that has normal color operation in situations where there is sufficient illumination (day conditions), but where the sensitivity can be increased when there is little light available (night conditions). This is achieved by removing the infrared cut filter required for good color rendition. The sensitivity can be further enhanced by integrating a number of fields to improve the signal-to-noise ratio of the camera (this may introduce motion blur).
- E. Privacy Masking: The ability to mask out a specific area to prevent it from being viewed in order to comply with privacy laws and particular site requirements.
- F. Smart BLC (Back Light Compensation): Smart back-light compensation allows the camera to automatically compensate for bright areas of a high contrast scene without having to define a window or area.

1.4 SYSTEM DESCRIPTION

- A. Video Surveillance Remote Devices
 - 1. The Samsung, SCD-2010F, High Resolution Compact Flat Dome camera, is the basis of design.
 - 2. An approved equal meeting the minimal requirements specified can be substituted.
 - 3. The following manufacturers are acceptable:
 - a. Samsung
 - b. Bosch
 - c. American Dynamics
 - d. Axis
- B. General Requirements
 - 1. The high-resolution day & night camera shall provide 600 TV lines in color with a minimum illumination of 0.04 Lux @F1.2.
 - 2. The camera shall provide a built-in 3mm lens.
 - 3. The camera shall be designed and constructed for flush mounting.
 - 4. The camera shall have a progressive scanning system.
 - 5. The camera shall be analog.
 - 6. The camera shall operate with high reliability.



7. The camera shall have been rigorously tested and proven for use by the manufacturer.

1.5 SUBMITTALS

- A. Product Data:
 1. Manufacturer's data, user and installation manuals for all equipment and software programs including computer equipment and other equipment required for complete video management system.
- B. Shop Drawings; include
 1. System device locations on architectural floor plans.
 2. Full Schematic of system, including wiring information for all devices.
- C. Closeout Submittals
 1. User manual.
 2. Parts list.
 3. System device locations on architectural floor plans.
 4. Wiring and connection diagram.
 5. Maintenance requirements.

1.6 QUALITY ASSURANCE

- A. Manufacturer:
 1. Minimum of 3 years' experience in manufacture and design Video Surveillance Devices.
 2. Manufacturer's quality system: Registered to ISO 9001 Quality Standard.
- B. Video Surveillance System
 1. Listed by UL specifically for the required loads. Provide evidence of compliance upon request.
- C. Installer:
 1. Minimum of 3 years' experience installing Video IP Surveillance System.

1.7 DELIVERY, STORAGE AND HANDLING

- A. Deliver materials in manufacturer's original, unopened, undamaged containers; and unharmed original identification labels.



- B. Protect store materials from environmental and temperature conditions following manufacturer's instructions.
- C. Handle and operate products and systems according to manufacturer's instructions.

1.8 WARRANTY

- A. Provide manufacturer's warranty covering 1 year for replacement and repair of defective equipment.

1.9 GUARANTEE SERVICE

- A. Make ordering of new equipment for expansions, replacements, and spare parts available to dealers and end users.
- B. Provide factory direct technical support from 8:00 a.m. to 8:00 p.m. via phone and e-mail.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturers:

Samsung Electronics America
85 Challenge Road
Ridgefield Park, NJ 07660
Phone: + 1 800-SAMSUNG
Fax: + 1 973-601-6001

Axis Communications Inc.
300 Apollo Drive
Chelmsford, MA 01824
Phone: +1 978 614 2000
Fax: +1 978 614 2100

Intelligent Marketing Incorporated (American Dynamics)
200 Merrimack Street, 4th Floor
Haverhill, MA 01830
Phone: (978) 702-0100
Fax: (978) 702-0111

- B. Substitutions:

- 1. The Samsung, SCD-2010F, was used as basis of design. Analog cameras from other manufacturers that meet the performance specifications listed (approved equal) are acceptable.



2.2 SAMSUNG, SCD-2010F

A. Performance:

1. The camera shall be able to view the interior of the elevator cab to include the entrance.
2. The camera shall be available with a 3.0 mm wide-angle lens allowing a 89° H-FoV and 67° V-FoV of the cab.
3. The camera shall have no exposed wiring or anchor points, making it highly vandal-resistant.
4. The camera shall have automatic, photocell-controlled day-night switching.
5. The camera shall have a 1/3" HAD CCD II sensor with mechanical filter technology for vivid daytime color and effective night-time performance.
6. The camera shall produce a 600TVL.
7. The camera shall have daytime color mode.
8. The camera shall have night-time IR monochrome mode.
9. The camera shall operate at .04 lux in night-time monochrome mode.

B. Construction

1. The camera shall be ruggedized for vandal resistance.
2. The camera shall have no exposed wiring or anchor points, making it highly vandal-resistant and suitable for suicide watch.
3. Pan/Tilt/Rotate Specifications: Pan Range: +/- 10° degrees; Tilt Range: 0° ~ 90°.
4. The camera will be surfaced mounted to the ceiling/wall of the cab.
5. The camera shall operate at a temperature range from -10°C to +50°C (14°F to +122°F).

C. General Characteristics:

1. The camera shall provide Bilinx communication to enable installers to check status, change camera setting and upgrade firmware via the video cable.
2. The camera shall provide six independent pre-programmed operating modes that provide optimized settings for typical applications.
3. The camera shall provide four independent, fully programmable privacy mask areas.



4. The camera shall provide enhanced night viewing through the increase of IR sensitivity by automatically switching a motorized IR filter from color to monochrome operation in low-light or IR illuminated applications.
5. The camera shall provide a CVBS (PAL/NTSC), 1 Vpp, 75 Ohm analog output on BNC connector.
6. The camera shall provide a CVBS (PAL/NTSC), 1 Vpp, 75 Ohm analog output on a 2.5 mm jack connector for installation purposes.
7. The camera shall utilize pixel-by-pixel analysis to automatically compensate for bright areas of a high contrast scene (Backlight) without having to define a window or area.

D. Installation Requirements

1. The camera shall have power and alarm cable connectors which can be removed when the camera is mounted.
2. The camera shall be capable of simultaneous connection to 12 VDC power supplies.

E. Motion detection

1. The camera shall offer motion detection with eight programmable areas with sensitivity levels.
2. The camera shall display the motion event in the video signal and alarm output can be closed or transmit alarm message.

F. Specifications

1. Electrical:

- a. Input voltage:
 - (1) [+12 VDC]
 - (2) [24 VAC]
- b. Power consumption
 - (1) Max 1.8W

2. Video

- a. Image Sensor: 811(11) x 508(V), 1/3" CCD, WDR dual shutter
- b. Sensor resolution: 600TVL
- c. System: PAL or NTSC



- d. Total pixels (H x V): 795(H) x 596(V) (PAL); 768(H) x 582(V) (NTSC)
 - e. Effective pixels (H x V): 752(H) x 582(V) (PAL); 768(H) x 494(V) (NTSC)
 - f. Sensitivity:
 - (1) Color: 0.04 lx (0.00372 fc)
 - (2) Mono: 0.0 lx (IR on)
 - g. Signal-to-noise ratio: 54 dB
 - h. High Dynamic Range: 94 dB (WDR)
 - i. True Day/Night: Auto, Color, Monochrome
 - j. Shutter speed:
 - (1) Automatic Electronic Shutter (AES)
 - (2) Fixed 1/50 (1/60) to 1/120,000 sec.
3. Functions
- a. Day & Night: Auto (Electrical)/Color/BW
 - b. Backlight Compensation: BLC/HLC/Off
 - c. Dynamic Noise Reduction: SSNR/III (On/Off)
 - d. White Balance: ATW/ Indoor/Outdoor/Manual/AWC
 - e. Contrast Enhancement: SSSDR (On/Off)
 - f. Camera ID: 15 displayed characters
 - g. Modes: 6 preset programmable modes
 - h. Video Motion Detection: 8 programmable zones
 - i. Privacy Masking: 12 programmable zones
 - j. Digital Image Stabilizer: On/Off
 - k. OSD Language: English, French, German, Spanish, Portuguese, Chinese, Russian, Korean, Taiwanese, Turkish, Italian
4. Lens
- a. Lens type: Fixed 3.0 mm, F2.0



- b. Lens mount: Board mounted:
- c. Horizontal field of view: 89.5°
- d. Vertical field of view: 67.2°
- 5. Connection
 - a. Analog video out BNC connector (1 Vp-p CVBS, PAL/NTSC)
 - b. Analog video out (for installation only): 2.5 mm jack connector (1 Vpp CVBS, NTSC)
- 6. Mechanical
 - a. Dimensions (W x H x D): 115 x100.5x41.9mm (4.54" x 3.96" x1.65")
 - b. Weight: 140 g (0.31lb)
- 7. Environmental
 - a. Operating temperature/Humidity: -10 °C to +50 °C (14 °F to +122 °F)
 - b. Humidity: Less than 90% relative humidity (non-condensing)

2.3 CCTV POWER SUPPLY

- A. New travelling cables will be used to connect the elevator cameras to the power supplies. The Contractor shall confirm the exact wire size and type for the elevator traveling cables.
- B. Contractor will provide, install and connect the travelling cables' 18 gauge power cables to a Altronix ALTV1224C4, CCTV Combination AC and DC Wall Mount mounted power supplies located in the EMRs.
- C. Camera power supplies shall consist of a UL listed transformer with 120V input and a regulated and filtered 24VAC output. The power supplies shall have individual fused outputs to each camera.
- D. Camera power supplies shall be capable of adequately accommodating one (1) camera from each of the assigned power supply locations.
- E. Camera power supplies shall be mounted in metal cabinets with lockable hinged covers and tamper switches.
- F. Camera power supplies shall be plugged into a receptacle inside the cabinet that also acts to disconnect the incoming line voltage. If emergency generator circuits are present, the outlets shall be powered from the emergency generator panel.
- G. Camera power supply shall include an LED indicator to indicate the presence of incoming voltage.



- H. The new power supplies shall report a low battery/battery presence alarms as separate individual points per cabinet.
- I. All loss of AC (120VAC) alarms shall be reported as a single alarm per circuit in the closet.

2.4 ETHERNET-FIBER OPTIC MEDIA CONVERTER

- A. The Contractor shall provide an Ethernet-Fiber Optic Cable Media Converter in the 4th floor Telecom Room.
- B. Media converter will support conversion of a minimum of two (2) RG6U cables to multi-mode fiber optic cabling to connect to an existing switch.
- C. Contractor will provide two (2) 25 ft strands of multi-mode fiber optic cable. Contractor will coordinate with IT personnel and provide the proper fiber optic cable switch connectors.

2.5 CABLE AND WIRING

- A. The Contractor shall confirm the exact wire size and type in the traveling cable.
- B. The contractor will be responsible for extending the camera video and power cables from the Elevator Interface Panel to the contractor provided power supply located in the Elevator Machine Rooms (EMRs). The contractor will run the video cables from the EMRs to the 1st floor IT/Server room via an existing shaft located in the Passenger Elevator Machine Room. The Contractor shall confirm this location with building IT personnel prior to installation.
- C. The contractor will coordinate cable routing for the most direct path.
- D. The Contractor shall be responsible for providing all wire, conduit and other equipment as required to complete the interface between the Elevator Interface Panel, power supply and cable termination in the 1st floor IT/Server Room.
- E. Unified Court System (UCS) personnel will take the terminated cabling located in the IT/Server Room and place on the UCS network.
- F. The cameras will be integrated into and managed by the existing front end system.
- G. In all cases, wire conductors and all cables utilized for the connection of the various components as specified herein, shall comply with or exceed the recommendations of the component manufacturers.
- H. All wire and cable provided by the Contractor shall comply with all applicable codes and ordinances.



PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas to receive devices and notify adverse conditions affecting installation or subsequent operation.
- B. Do not begin installation until unacceptable conditions are corrected.

3.2 PREPARATION

- A. Protect devices from damage during construction.

3.3 INSTALLATION

- A. Install devices in accordance with manufacturer's instruction at locations indicated on the floor drawings plans.
- B. Ensure selected location is secure and offers protection from accidental damage.
- C. Location must provide reasonable temperature and humidity conditions, free from sources of electrical and electromagnetic interference.

3.4 FIELD QUALITY CONTROL

- A. Test snugness of mounting screws of all installed equipment.
- B. Test proper operation of all video system devices.
- C. Determine and report all problems to the manufacturer's customer service department.

3.5 ADJUSTING

- A. Make proper adjustment to video system devices for correct operation in accordance with manufacturer's instructions.
- B. Make any adjustment of camera settings to comply with specific customer's need.

3.6 DEMONSTRATION

- A. Demonstrate at final inspection that video management system and devices function properly.

END OF SECTION



SECTION 28 31 00

FIRE ALARM AND DETECTION SYSTEM

PART 1- GENERAL

1.1 DESCRIPTION

- A. Work under this Section shall be governed by the Contract Documents. Provide materials, labor, equipment and services necessary to furnish, deliver and install all work of this Section as shown on the Contract Drawings and as specified herein.

1.2 STANDARDS AND CODES

- A. All equipment shall be U.L. listed and conform to the latest U.L. standards:
1. Control equipment - U.L. std. 864, meeting the requirements of NFPA 72.
 2. Smoke detectors - U.L. std. 268
 3. Audible alarm signals - U.L. std. 1480.
 4. Security Standard - U.L. std. 1076.
 5. All equipment shall be U.L. listed under UOJZ as an interrelated assembly by a single manufacturer.

1.3 SUBMITTALS

- A. Contractor shall submit complete shop drawings for the Life Safety System, including:
1. Fire Alarm Equipment approved for the purpose by the Board of Standards and Appeals of the City of New York.
 2. Wiring diagrams prepared specifically for this project showing the location of all devices and equipment.
 3. Electrical connection diagrams for all devices and equipment including power requirements.
 4. Manufacturer's catalog sheets for all devices and equipment being furnished.
 5. Samples of peripheral devices as requested by the Commissioner.
- B. Within thirty (30) days of award of contract, contractor shall provide schedule of all submittals employing format as provided hereinafter and enumerating all drawings, samples and miscellaneous submittals by name, quantity, etc.



1.4 ACCEPTABLE MANUFACTURERS

- A. All equipment provided as part of this section shall be the product of a single fire alarm equipment manufacturer.
- B. Acceptable Manufacturers:
 - 1. Gamewell Flex Alert matching the existing system in the building.

1.5 SYSTEM DESCRIPTION

- A. Provide modifications to an existing Gamewell Flex Alert fire alarm system to add the devices as shown on Contract Drawings. Provide all necessary auxiliary devices necessary to make the additional devices operational under the existing system.

1.6 SYSTEM OPERATION

- A. Normal Supervisory Operation:
 - 1. Upon application of power, or re-application of power after an extended power outage, the Life Safety System shall automatically initialize all circuitry and shall automatically be put into a normal supervisory condition, indicated by a green "All Clear" LED.
 - 2. All alarm initiating, status monitoring, two-way warden telephone, alarm signaling and one-way emergency voice announcement circuits shall be NFPA 72A Style 6 (Class "A" four wire) so that a single line fault on any such circuit shall indicate a trouble condition per circuit. Each addressable communication circuit shall provide the capability of communicating with up to one hundred twenty-eight (128) addressable input devices or sixty-four (64) addressable control devices or a combination of both types.
 - 3. All system communication lines between panels, i.e., Fire Command Station, transponders and remote annunciators shall be supervised. Data links shall meet the requirements for NFPA 72 Style 6 (Class "A" 4 wire) so that a single line fault shall not prevent the system from functioning. Each multiplex data communications circuit shall provide the capability of communicating with up to sixty-three (63) system transponders. System transponders shall be evenly divided between the two (2) multiplex data communications circuits.
 - 4. All operating controls shall be supervised for placement in normal operating condition.



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B. Alarm Operation:

1. Operation of any addressable manual fire alarm station, activation of any addressable automatic alarm initiating device or an automatic alarm initiating device connected to a Monitor Zone Addressable Module (MZAM) shall automatically:
 - a. Sound a "slow whoop" alarm tone on all voice/tone alarm speakers on the floor of alarm initiation and the floor above the floor of the alarm initiation. Sound an alert tone on all floors until the alarm is silenced at the Fire Command Station. Subsequent alarm conditions shall again sound the audible signals in the appropriate areas.
 - b. Flash all alarm strobe lights on the floor of alarm initiation and the floor above the floor of the alarm initiation. Subsequent alarm conditions shall turn on the alarm strobe lights in the appropriate areas.
 - c. Sound an audible signal at the FCS. Pressing the "PRIORITY 1 ALARM" acknowledge key on the FCS shall silence the audible signals during the alarm condition. Subsequent alarm conditions shall resound the audible signals.
 - d. The "PRIORITY 1 ALARM" LED shall flash on the FCS until the alarm has been manually acknowledged. When the alarm has been acknowledged, this same LED shall latch on. A subsequent alarm received after any acknowledgment shall again flash the same LED on the FCS CPU.
 - e. Flash the "FIRE" sign at the Fire Command Station (FCS).
 - f. Visually annunciate the software defined group of addressable alarm initiating devices, which includes the device in alarm condition, at the FCS, via an individual alarm LED indicator. The visual alarm indication shall remain "on" until the alarm condition is reset to normal.
 - g. Display a general alarm indication and the addressable device address number on the FCS light emitting diode (LED) alphanumeric display. Pressing the location information key shall display, for thirty (30) seconds, the individual device or circuit custom label (up to twenty characters and spaces) for the addressable device or circuit of alarm initiation on the LED display. At the end of the thirty (30) second display, the general alarm indication and system status summary shall again be displayed. The individual device custom label may be recalled at any time by repressing the location information key or until the alarm condition is reset to normal.
 - h. Initiate the Fire Command Station (FCS) printer to printout a hard copy record of the alarm activation to include the time and date and custom label for the addressable device in alarm.



- i. Initiate the Cathode Ray Tube (CRT) displays to display the alarm activation information to include the time and date and custom label for the addressable device in alarm.
 - j. Operate control relay contact to initiate the transmission of an alarm indication to a central station agency via telephone lines. Selection of a central station agency, its equipment, its fees and fees for telephone lines are the responsibility of this contractor.
 - k. Sound an audible signal and visually annunciate a common alarm condition at the lobby security desk. The audible signal may be silenced during the alarm condition.
 - l. Override security system utilized in paths of egress.
2. Activation of any open area smoke detector (excluding elevator related area smoke detectors), duct smoke detector at a floor return duct or heat detector shall be considered a "Priority 1" alarm and shall provide the following automatic operations:
 - a. Activate the same automatic operations as above listed in 1.06.B.1.a. through 1.
 - b. Operate control relay contacts to shutdown all air handling systems that serve the floor of alarm initiation. Fans that are used for smoke purge shall be permitted to restart from the operation of the Fire Department "Purge Enable" keyswitch at the FCS and associated "floor purge" and associated "pressurization" control switches located at the FCS provided as part of the fire alarm system. Air handling systems shall not be permitted to restart from the simple operation of the system reset switch. A separate air handling systems restart switch shall be provided at the Fire Command Station (FCS) to permit the restarting of air handling systems by the BMS. Fan shutdown initiated by the operation of a duct smoke detector shall require that the unit be manually reset at the unit prior to restarting of the unit for any function after the fire alarm system has been reset to normal.
3. Activation of both elevator lobby smoke detectors or any sprinkler waterflow alarm switch shall be considered a "Priority 1" alarm and shall provide the following automatic operations:
 - a. Activate the same automatic operations as above listed in 1.06 B.1.a. through 1. and 1.06 B.2.b.
 - b. Operate system control relay contacts to return all elevators that serve the floor of alarm initiation to the ground floor. If the alarm originates from the ground floor, operate control circuit contacts to return all elevators to the floor above or other level as directed by the New York City Fire Department.
 - c. The activation of any single elevator lobby smoke detector shall only annunciate at the FCS with floor identification.



4. Activation of any elevator shaft smoke detector shall be considered a "Priority 1" alarm and shall provide the following automatic operations:
 - a. Activate the same automatic operations as above listed in 1.06 B.1.c through k. and 1.06 B.3.b.
 - b. Operate control relay contact to open/release the smoke vent/hatch at the top of the elevator shaft.
 5. Activation of any single elevator machine room smoke detector or alarm from elevator machine room pre-action sprinkler system shall be considered a "Priority 1" alarm and shall provide the following automatic operations:
 - a. Activate the same automatic operations as above listed in 1.06 B.1.c. through k.
 - b. Initiate elevator recall for elevators associated with the machine room. After completion of elevator recall, operate contact to signal confirmation to the pre-action sprinkler panel in the associated elevator machine room that elevator recall has been completed.
 6. Activation of a duct smoke detector at an air handling system unit shall be considered a "Priority 1" alarm and shall provide the following automatic operations:
 - a. Activate the same automatic operations as above listed in 1.06 B.1.c. through k.
 - b. Operate control relay contacts to shut down the air handling system associated with that duct smoke detector. The restarting of the unit after the activation of its duct smoke detector must be done manually at the unit and not by the BMS from a remote location.
- C. Supervisory (Off-Normal) Condition Operation:
1. Activation of a sprinkler valve tamper switch, Fire and/or Booster Pump "Running" or "Start Failure" contact shall be considered a "Priority 2" condition and provide the following automatic operations:
 - a. Sound an audible signal at the Fire Command Station (FCS). Pressing the "PRIORITY 2 ALARM" acknowledge key on the FCS CPU shall silence the audible signals during the off-normal condition. Subsequent off-normal conditions shall resound the audible signals.
 - b. The "PRIORITY 2 ALARM" LED shall flash on the FCS CPU until the off-normal condition has been manually acknowledged. When the off-normal condition has been acknowledged, this same LED shall latch on. A subsequent off-normal condition received after any acknowledgment shall again flash the same LED on the FCS CPU.



- c. Display a general off-normal indication and device/circuit address number on the FCS CPU alphanumeric, light emitting diode (LED) display. Pressing the location information key shall display, for thirty (30) seconds, the individual device or group custom label (up to twenty characters and spaces) for the addressable device reporting the off-normal condition on the alphanumeric LED display. At the end of the thirty (30) second period, the general off-normal indication and device address number shall again be displayed. The individual device custom label may be recalled at any time by repressing the location information key or until the off-normal condition is restored to normal.
- d. Visually annunciate the supervisory device, connected to Monitor Zone Addressable Modules (MZAMs), which is reporting the off-normal condition, at the Fire Command Station (FCS), via an individual off-normal LED indicator. The visual indications shall remain on until the off-normal condition is restored to normal. The indication shall differentiate between the activation of an off-normal condition and a wiring fault on the MZAM supervisory circuit.
- e. Initiate the FCS CPU printer to printout a hard copy record of the off-normal condition information to include the time and date and custom label for the device/circuit reporting the off-normal condition.
- f. Initiate the LCD display to display the off-normal condition to include the time and date and custom label for the device/circuit reporting the off-normal condition.
- g. Operate a control relay contact to initiate the transmission of a supervisory indication to the central station agency.
- h. Sound an audible signal and visually annunciate a common trouble condition at the lobby security desk. The audible signal may be silenced during the off-normal condition.

D. One-Way Tone/Voice Communication From The Fire Command Station.

- 1. The fire alarm tone signal and alert tone shall be capable of being initiated automatically from the Fire Command Station (FCS), and transmitted to any speaker circuit, selected speaker circuits or all speaker circuits. No alarm tones or alert tones shall be automatically broadcast in stairwells or elevator cabs.
- 2. The fire alarm tone signal, alert tone signal or live voice announcements shall be capable of being manually transmitted from the FCS to any speaker circuit, selected speaker circuits or all speaker circuits by manual selection of the associated speaker circuit control switches. Manual selection of any speaker circuit for live voice announcement shall also flash the alarm strobe lights in the same areas of the selected circuit of alarm speakers.



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DESIGN + CONSTRUCTION

3. Manual override, for live voice announcements, via the hand-held microphones and speaker circuit control switches shall take priority over any and all alarm tone signals or alert tone signals.
- E. Two-Way Warden Telephone Communication To/From The Fire Command Stations (FCS)
1. Picking up a warden telephone handset shall automatically:
 - a. Sound an audible signal at the FCS.
 - b. Flash the individual telephone "calling-in/ connected" LED indicator for the calling-in circuit at the FCS.
 2. Connecting the call, by operating the appropriate telephone line "connect" switch, at the FCS shall automatically:
 - a. Silence the audible call-in signal.
 - b. Connect the appropriate warden telephone circuit to the FCS master telephone for talking.
 - c. Continuously light the individual telephone "calling-in/connected" LED indicator for the connected circuit at the FCS.
 - d. Light the LED indicator at the connected warden telephone.
 3. Operating additional warden telephone line "connect" switches, at the FCS shall automatically:
 - a. Permit warden telephones to talk to other warden telephone locations via a patch in the telephone network, controlled at the FCS. Up to ten (10) warden telephones may be operated simultaneously.
 4. Warden telephones shall be capable of making announcements over alarm speaker circuits via a "patch" circuit and speaker circuit control switches, controlled at the FCS.
- F. Trouble Condition Operation:
1. The fire alarm system wiring (except control wiring to fans, dampers, door holders, etc.) shall be electrically supervised to automatically detect and report trouble conditions to the FCS.
 2. Any opens, grounds or shorts across multiplex data communications or addressable circuit wiring shall initiate a system trouble condition.
 3. Any opens or grounds on alarm initiating or supervisory circuit wiring and any opens, grounds or shorts across alarm signal, alarm speaker, warden telephone or alarm light wiring shall initiate a system trouble condition.



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

Project ID No. - CO277ELV2

4. System addressable devices shall be supervised for placement and normal operation. Removal of an addressable device or the failure of its internal electronic circuitry shall initiate a system trouble condition.
5. Operation of the central station agency alarm disconnect switch or of any manual control commands that alter the system from its normal programmed standby configuration shall initiate a trouble condition.
6. Trouble conditions shall automatically:
 - a. Sound an audible signal at the FCS. Pressing the "TROUBLE" acknowledge key on the FCS CPU shall silence the audible signals during the trouble condition. Subsequent trouble conditions shall resound the audible signals.
 - b. The "TROUBLE" LED shall flash on the FCS CPU until the trouble condition has been manually acknowledged. When the trouble condition has been acknowledged, this same LED shall latch on. A subsequent trouble condition received after any acknowledgment shall again flash the same LED on the FCS CPU.
 - c. Display a general trouble indication and device/circuit address number on the FCS CPU alphanumeric, light emitting diode (LED) display. Pressing the location information key shall display, for thirty (30) seconds, the individual device or circuit custom label (up to twenty characters and spaces) for the addressable device or circuit in trouble on the LED display. At the end of the thirty (30) second period, the general trouble indication and device/circuit address number shall again be displayed. The individual device/circuit custom label may be recalled at any time by repressing the location information key or until the trouble condition is restored to normal.
 - d. Initiate the FCS CPU printer to print out a hard copy record of the trouble condition information to include the time and date and custom label for the device/circuit in trouble.
 - e. Initiate the Cathode Ray Tube (CRT) displays to display the trouble condition information to include the time and date and custom label for the device/circuit in trouble.
 - f. Operate a control relay contact to initiate the transmission of a trouble indication to the central station agency.
 - g. Sound an audible signal and visually annunciate a common trouble condition at the lobby security desk. The audible signal may be silenced during the trouble condition.
7. Faults in the following equipment shall initiate a trouble condition:
 - a. Tone signal generators: The fire tone signal generators shall be arranged so that a trouble condition automatically transfers the operation to a standby signal generator. The standby signal



generator and primary signal generator shall be electrically supervised at all times.

- b. Pre-amplifiers: All pre-amplifiers shall be arranged so that a trouble condition automatically transfers the operation to a standby pre-amplifier. The standby pre-amplifier and the primary pre-amplifier shall be electrically supervised at all times.

- (1) Audio Power Amplifiers: Amplifiers shall be arranged so that a trouble condition automatically transfers the operation to a standby amplifier. The standby amplifiers and the primary amplifier shall be electrically supervised at all times.

G. Basic System Equipment and Capabilities:

1. The multiplex and addressable fire alarm system shall provide an individual digital address for each addressable manual fire alarm station, addressable area smoke detector, addressable duct smoke detector, addressable heat detector, Monitor Zone Addressable Module (MZAM), Control Zone Addressable Module (CZAM), or Signal Zone Addressable Module (SZAM). The FCS Central Processing Unit (CPU) shall be able to support up to a system total of two thousand, forty (2,040) individual input addresses or points and one thousand, twenty-four output addresses or control points. Any addressable device may be software programmed to activate any system control relay or signaling circuit.
2. The multiplex and addressable fire alarm system shall provide NFPA Standard 72A, Style 6 (Class A, four wire) multiplex data communications circuits to provide connection of and communication with the system transponders. Each multiplex data communications circuit shall provide the capability of communicating with up to sixty-three (63) system transponders. System transponders shall be evenly divided between two (2) multiplex data communications circuits.
3. The multiplex and addressable fire alarm system shall provide NFPA Standard 72A, Style 6 (Class A, four wire) addressable communications circuits to provide connection of and communication with the addressable devices and system transponders. Each addressable communications circuit shall provide the capability of communicating with up to one hundred twenty-eight (128) addressable input devices or sixty-four (64) addressable control devices or a combination of both types.

PART 2- PRODUCTS

2.1 ADDRESSABLE AREA SMOKE DETECTORS

- A. Shall be photoelectric, two-wire, 24 VDC smoke detector, and shall be calibrated and adjusted for sensitivity at the manufacturer's factory to U.L. standards (nominally 2.6% obscuration). Each detector shall utilize solid-state components and be equipped with a fully regulated LED light source for long life reliability, a thirty (30) mesh insect screen, a power-on/alarm LED indicator, and



magnetically activated test. Detector electronics shall be completely shielded to protect against false alarms from EMI and RFI. Detectors shall be listed for U.L. Standard 268 and FM approved. Detectors shall be provided with surface mount, addressable base assembly with an alarm LED indicator and screw terminals for all connections. The addressable base shall respond to polling signals from the FCS and local transponder and shall report alarm or trouble status changes. Base assemblies shall provide detector twist/lock capability.

2.2 ADDRESSABLE DUCT SMOKE DETECTORS

- A. Shall be photoelectric, two-wire, 24 VDC smoke detector and air duct housing, and shall be calibrated and adjusted for sensitivity at the manufacturer's factory to U.L. standards. Each detector and air duct housing shall be self-compensating for the effects of air velocity (from 400 to 4,000 feet per minute), temperature, humidity and atmospheric pressure. It shall not be necessary to field adjust the sensitivity to compensate for the above effects. Each detector shall utilize solid-state components and be equipped with a built-in power-on/alarm LED indicator. Detector electronics shall be completely shielded to protect against false alarms from EMI and RFI. Detectors shall be listed for U.L. Standard 268 and FM approved. Detector housings shall be provided with addressable base assembly with screw terminals for all connections. The addressable base shall respond to polling signals from the FCS and local transponder and shall report alarm or trouble status changes. Each duct detector housing shall be supplied with sampling tubes, sized according to duct width. Where indicated on the drawings, detectors shall be provided with remote alarm LED on a single gang plate, surface or flush mounted.

2.3 MONITOR ZONE ADDRESSABLE MODULES (MZAM)

- A. Shall be individually addressable alarm initiating/supervisory circuit board(s) and shall consist of printed circuit board with discrete circuitry for monitoring normally-open, dry contacts using NFPA 72A Style B (Class B, two-wire) circuit supervision. The MZAM shall respond to polling signals from the FCS and local transponder and shall report alarm initiating/ supervisory circuit status changes to it. The MZAM shall include a field programming capability for the assignment of its individual address number and clamp-type terminals for making wiring connections. The MZAM shall draw its power from the local transponder via a separate power circuit. The MZAMs shall be furnished for flush mounting in finished areas or surface mounting with backbox in unfinished areas, where shown on the Drawings.

2.4 CONTROL ZONE ADDRESSABLE MODULES (CZAM)

- A. Shall be individually addressable control relay and shall consist of printed circuit board with discrete circuitry for controlling one (1) individually addressable control relay with double-pole/double-throw (DPDT) contacts rated at two amperes (2.0 A.) @ 120 VAC/28 VDC. The control ZAM shall respond to control signals from the FCS and local transponder. The control ZAM shall include a field programming capability for the assignment of its individual address number and clamp-type terminals for making wiring connections. The control ZAM shall draw its power from the local transponder via a separate power circuit. The control ZAMs shall be provided for flush mounting in finished areas or surface mounting with backbox in unfinished areas, where shown on the Drawings.



2.5 WALL MOUNT ALARM SPEAKERS WITH ALARM STROBE LIGHTS

- A. Shall be four-inch (4.0") diameter cone-type loudspeaker with audio-visual unit. The loudspeaker shall provide field-selectable power inputs at 0.25, 0.5, 1.0 and 2.0 watts at 25 VRMS by changing transformer taps. The loudspeaker shall be U.L. listed as an approved audio appliance for fire alarm signaling per U.L. Standard 1480 and shall be humidity and vermin resistant. Loudspeaker frequency response shall be 400 to 4,000 Hz, with a U.L. Standard 1480 rated sound level output of 82 dB at 0.5 watt at 10 feet on axis. Each alarm speaker shall also provide seventy thousand candlepower (70,000 CP), 24 VDC (0.045 A.), polarized, Xenon strobe light with the word "FIRE" horizontally imprinted in red, on the front of a rectangular, opaque white lens. Alarm speaker/light units shall be provided for semi-flush wall mounting in finished areas or surface wall mounting with matching backbox in unfinished areas, where shown on the Drawings.

2.6 ALARM SPEAKERS

- A. Shall be four-inch (4.0") diameter cone-type loudspeaker. The loudspeaker shall provide field-selectable power inputs at 0.25, 0.5, 1.0 and 2.0 watts at 25 VRMS by changing transformer taps. The loudspeaker shall be U.L. listed as an approved audio appliance for fire alarm signaling per U.L. Standard 1480 and shall be humidity and vermin resistant. Loudspeaker frequency response shall be 400 to 4,000 Hz, with a U.L. Standard 1480 rated sound level output of 82 dB at 0.5 watt at 10 feet on axis. Alarm speakers shall be provided for flush mounting in finished areas or surface mounting with matching backbox in unfinished areas, where shown on the Drawings.

2.7 WALL ALARM STROBE LIGHTS

- A. Shall be 24 VDC (0.045 A.), polarized, seventy thousand candlepower (70,000 CP), Xenon strobe lamp with the word "FIRE" vertically imprinted in red on both sides and the front of a rectangular, opaque white lens. The lens shall be mounted on a single-gang, red plate and the alarm light unit shall be provided for semi-flush mounting in finished areas, where indicated by symbols on the Drawings.

2.8 WARDEN TELEPHONES

- A. Shall be telephone, in steel cabinet, with magnetically latched door, red thermoplastic handset and cradle assembly with armored line cord and "call connected" LED indicator. Cabinet shall be red in color and marked in white letters "FIRE WARDEN STATION". Warden telephone shall be provided for flush mounting in finished areas or surface mounting with matching backbox in unfinished areas, where shown on the Drawings. Warden telephone located in the pump room to be provided with twenty-five foot cord.

PART 3- EXECUTION

3.1 FIRE ALARM SYSTEM

- A. The entire system shall be installed in a workmanlike manner, in accordance with approved manufacturer's wiring diagrams and U.L. UOJZ criteria. The



contractor shall furnish all conduit, wiring, outlet boxes, junction boxes, cabinets and similar devices necessary for the complete installation. All wiring shall be of type recommended by the manufacturer and approved by the New York City Fire Department and shall be installed in conduit throughout. In recessed installations, steps shall be taken to maintain any required fire ratings of attendant walls and/or structures.

- B. End of Line Devices: Shall be furnished as required for mounting as directed by manufacturer.
- C. All wiring shall be to City of New York Electrical Code Standards throughout. The emergency telephone and speaker wiring shall be #16, twisted, shielded.
- D. The system shall be arranged to receive power from emergency 120 VAC circuits. All low voltage 24 VDC operation shall be provided within control cabinets.
- E. Field Quality Control: The completed system shall be fully tested under the supervision of a trained manufacturer's representative. The system shall be demonstrated to perform all of the functions as specified.
- F. Each individual system operation on a device-by-device basis shall be tested for its complete operation. Procedure for testing entire life safety system shall be set forth with the consent of the Commissioner and manufacturer.
- G. Solid state components are to be programmed by manufacturer, including all basic items for program-by-event functions.
- H. All conduits shall enter control panels and transponders from the bottom only.
- I. Provide all wiring between, smoke detectors, elevator control panel, Building automated system controls, speakers, fire alarm annunciators, in accordance with manufacturer's instructions.
- J. Provide all outlet boxes required for the installation of the complete system.
- K. Color codes to be used throughout for all wiring. All wires to be tagged at all junction points, and shall test free of grounds or shorts between conductors.
- L. Final connection between equipment and the wiring system shall be made under direct supervision of a representative of the manufacturer.
- M. The contractor shall guarantee all wiring to be free from inherent mechanical and electrical defects for one (1) year from date of acceptance.
- N. The manufacturer shall warrant all equipment to be free from inherent mechanical and electrical defects for one (1) year from date of acceptance.
- O. Final acceptance test shall include, among other requirements, that the system perform for a 30-day time period completely free of any defects of system origin prior to system certification and commencement of any warranty period.



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

- P. Duct type smoke detectors shall be furnished, installed and wired by this Contractor, but all openings required in ducts shall be made under separate contract.

END OF SECTION

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ADDENDA CONTROL SHEET

TITLE: Court Square Courthouse Elevator Modernization and Upgrades

**GENERAL
COUNSEL**

[illegible]

THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF PUBLIC BUILDINGS

September 19, 2016

ADDENDUM No. # 1

FOR FURNISHING ALL LABOR AND MATERIAL NECESSARY AND REQUIRED FOR:

CO277ELV2

Court Square Courthouse Elevator Modernization and Upgrades

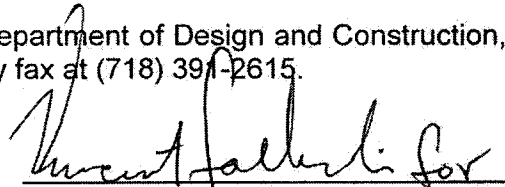
This addendum is issued for the purpose of amending the requirements of the Bid and Contract Documents and is hereby made a part of said Bid and Contract Documents to the same extent as though it were originally included therein.

The bidder is advised that the items listed below apply to the project:

1. **Revisions to the Drawings:**
See Attachment A.

THIS ADDENDUM MUST BE SIGNED BY ALL BIDDERS AND ATTACHED TO THEIR BIDS.

If additional information is required, please contact the Department of Design and Construction, Contract Section at (718) 391-3170, (718) 391-1016, or by fax at (718) 391-2615.



Rebecca Clough
Assistant Commissioner
Courts/ Correctional Institutions

Name of Bidder

By: _____

DDC PROJECT #: CO277ELV2

PROJECT NAME: Court Square Courthouse Elevator Modernization and Upgrades

ATTACHMENT A – REVISIONS TO THE DRAWINGS

The following revised Drawing Sheets are included with this Addendum:

1. A-001.00
2. A-002.00
3. A-101.00
4. A-401.00
5. A-601.00
6. VT-100.00
7. VT-102.00

ADDENDA CONTROL SHEET

TITLE: COURT SQUARE COURTHOUSE ELEVATOR MODERNIZATION
AND UPGRADES

**GENERAL
COUNSEL**

[illegible]

THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF PUBLIC BUILDINGS

September 21, 2016

ADDENDUM No. # 2

FOR FURNISHING ALL LABOR AND MATERIAL NECESSARY AND REQUIRED FOR:

CO277ELV2

COURT SQUARE COURTHOUSE ELEVATOR MODERNIZATION AND UPGRADES

This addendum is issued for the purpose of amending the requirements of the Bid and Contract Documents and is hereby made a part of said Bid and Contract Documents to the same extent as though it were originally included therein.

The bidder is advised that the items listed below apply to the project:

1. Bid Opening Date changed to October 26, 2016, 2PM
2. Questions and Answers
See Attachment A.

THIS ADDENDUM MUST BE SIGNED BY ALL BIDDERS AND ATTACHED TO THEIR BIDS.

If additional information is required, please contact the Department of Design and Construction, Contract Section at (718) 391-1016, or by fax at (718) 391-2615.


Rebecca Clough
Assistant Commissioner
Courts/ Correctional Institutions

Name of Bidder

By: _____

DDC PROJECT #: CO277ELV2

PROJECT NAME: Long Island City Courthouse Elevator Modernization and Upgrade

ATTACHMENT A - BIDDERS QUESTIONS AND DDC RESPONSES

No.	Bidders Questions	DDC Responses
1	On drawing VT-100 Note #3 states contractor is to provide a Fire Watch for the elevator mod project as related to the elevator recall smoke detection system for the duration of the project. This seems not necessary and would be an enormous amount of wasted money. Please advise if you can delete this requirement.	Building's Fire Alarm System is operational and Long Island City Courthouse currently does not use/need fire watch. Provide Fire Watch only during welding/hot works.
2	Please advise if you can delete the trailer requirements. The General Contractor and Consultant can probably get by with some small office space and storage space inside the building and save enormous amount of money that would be wasted on trailers. Please advise if you can delete this requirement for trailers, and if there is some storage inside the building for our materials.	Trailer requirements can be deleted. The courthouse will provide office space in the building. In addendum to General Conditions for Single Contract Projects delete requirements under section 015000-Subsection 3.8B, and add Section 015000-subsection 3.8A
3	I would assume that you want the work phased one elevator at a time, however I don't see it stated anywhere in the contract documents. Please clarify.	Yes. The work should be phased one elevator at time. Refer to Part 3-Execution-Section B.4 (Project Phasing) Pages 142123-72.
4	I see a detail for GWB furring inside the elevator shaft, however it is not identified on the Plans to where this is required, and so I assume it is not applicable to this project. Lining the existing elevator shafts with GWB seems unnecessary and a waste of an enormous amount of money.	The detail is correct. This is required to achieve the required fire rating. The existing elevator shafts are to be fire rated throughout.
5	Who are the current Building vendors for the following work and what is their contact information? a. Fire Alarm b. CCTV c. BMS d. Phone and internet provider e. Elevator Maintenance	The current Building vendors for the: a) Fire Alarm work is William C. Neogra/ Vice President Fire Alarm Electrical 68 Jay Street, Suite 307. Brooklyn NY 11201 Ph: 718 560 3119 Fax: 718 797 5944 Cell: 732 674 9144 b) Security Cameras Department of Public Safety under Deputy Chief Luis Valcarcel Ph: 914 824 5706 c) DCAS – Engineering Maintenance d) Verizon e) DCAS provides services to the elevators
6	As discussed with DDC and their Consultant at the walkthrough, there appears to be no access to get equipment into and out of the EMR except for the current EMR floor slab opening.	These questions are "means and methods" and as such are not able to be answered by VDA.

	<p>Please advise if there is any other access to the EMR, and if so please explain. If there is no other access to the EMR, please confirm that the existing slab opening is large enough to pass old and new equipment through, and please confirm that there are existing hoist beams above the EMR drop ceiling that we can use for support to hoist equipment up and down. There is no way to see if hoist beams exist because of the solid GWR/Plaster drop ceiling. Also if this EMR slab opening is the only means of access, we suggest not closing it up per contract documents, but rather leave it open as is, or installing a fire rated access door for future access to the EMR. Also, if project is to be phased (see question #3 above), then rigging into and out the EMR would have to be done twice, with half the EMR and elevator shaft occupied by a working elevator, this making the rigging process even more difficult than it already is. Please advise. In answering these critical EMR access questions, we request that DDC see if they have records from previous work performed in this EMR that would detail how they gained access to this EMR in the past.</p>	<p>Refer to drawing DM-200 The existing slab opening is 3'x4'</p> <p>The rigging is the contractor's responsibility</p> <p>For project phasing refer to question #3</p>
7	<p>Depending on your answers to item #6 above, we will likely require at least one or two additional site visits to show the yet to be determined rigging procedure to some rigging contractors. Will we be able to have at least one or two more site visits necessary?</p>	<p>No other walkthrough shall be scheduled for this project.</p>
8	<p>As discussed at the walkthrough, due to the long time it took DDC to get the contract documents corrected so we could read them and print them out, and due to the numerous RFIs above, please extend the Bid Due Date at least one or two weeks to give us sufficient time to price out this project correctly.</p>	<p>The bid due date is October 26, 2016.</p>

ADDENDA CONTROL SHEET

TITLE: COURT SQUARE COURTHOUSE ELEVATOR MODERNIZATION
AND UPGRADES

[illegible]

THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF PUBLIC BUILDINGS

September 28, 2016

ADDENDUM No. # 3

FOR FURNISHING ALL LABOR AND MATERIAL NECESSARY AND REQUIRED FOR:

CO277ELV2

COURT SQUARE COURTHOUSE ELEVATOR MODERNIZATION AND UPGRADES


This addendum is issued for the purpose of amending the requirements of the Bid and Contract Documents and is hereby made a part of said Bid and Contract Documents to the same extent as though it were originally included therein.

The bidder is advised that the items listed below apply to the project:

1. Bid Opening Date changed to November 2, 2016, 2PM

THIS ADDENDUM MUST BE SIGNED BY ALL BIDDERS AND ATTACHED TO THEIR BIDS.

If additional information is required, please contact the Department of Design and Construction, Contract Section at (718) 391-1016, or by fax at (718) 391-2615.


Rebecca Clough
Assistant Commissioner
Courts/ Correctional Institutions

Name of Bidder

By: _____



FMS ID: CO277ELV2



Department of
Design and
Construction

**THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF PUBLIC BUILDINGS**

30-30 THOMSON AVENUE LONG ISLAND CITY, NEW YORK 11101-3045
TELEPHONE (718) 391-1000 WEBSITE www.nyc.gov/buildnyc

Contract for Furnishing all Labor and Material Necessary and Required for:

CONTRACT NO. 1 GENERAL CONSTRUCTION WORK

Court Square Courthouse Elevator Modernization and Upgrades

LOCATION: 25-10 Court Square
BOROUGH: Queens 11101
CITY OF NEW YORK

Contractor _____

Dated _____, 20____

Entered in the Comptroller's Office

First Assistant Bookkeeper _____

Dated _____, 20____

